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ABSTRACT

Two of the major topics treated in this report are the current prevalence of drug use among American high school seniors, and trends in use since 1975. Also reported are data on school grade of first use, trends in use at earlier grade levels, intensity of drug use, attitudes and beliefs among seniors concerning various types of drug use, and their perceptions of certain relevant aspects of the social environment. The eleven separate classes of drugs distinguished are marijuana (including hashish), inhalants, hallucinogens, cocaine, heroin, natural and synthetic opiates other than heroin, stimulants, sedatives, tranquilizers, alcohol, and cigarettes. Separate statistics are also presented here for several sub-classes of drugs: PCP and LSD, barbiturates and methaqualone, and amyl and butyl nitrites. Occasions of medically supervised use of the psychotherapeutic drugs were excluded. Attention was focused on high frequency levels of drug use and an indirect measure of dosage per occasion was introduced to differentiate levels of drug use. The "Other Findings" section includes data on the use of non-prescription stimulants, daily marijuana use, effects of post high school environments and role transitions on drug use, and the issue of distinguishing maturational change from period effects and class cohort differences. Findings are supported by numerous tables. (Author/MCK)

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USE OF LICIT AND ILLICIT DRUGS BY AMERICA'S HIGH SCHOOL STUDENTS 1975-1984

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USE OF LICIT AND ILLICIT DRUGS BY AMERICA'S HIGH SCHOOL STUDENTS 1975-1984

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INTRODUCTION

This report is the eighth in an annual series reporting the drug use and related attitudes of America's high school seniors. The findings, which cover the high school classes of 1975 through 1984, come from an ongoing national research and reporting program entitled Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth. The program is conducted by the University of Michigan's Institute for Social Research, and is funded primarily by the National Institute on Drug Abuse. The study is also referred to as the High School Senior Survey, since the population from which each year's sample is drawn is comprised of all seniors in public and private high schools in the coterminous United States.

Published on a less frequent interval is a series of larger volumes, from which this series presents only the highlights of findings. The most recent was published by the National Institute on Drug Abuse in 1984 under the title Drugs and American High School Students: 1975-1983. In addition to presenting a full chapter of detailed findings for each of the various classes of drugs, each larger volume contains chapters on attitudes and beliefs about drugs and various relevant aspects of the social milieu, as well as several appendices dealing with validity, sampling error estimation, and survey instrumentation.*

Content Covered in this Report

Two of the major topics treated here are the current prevalence of drug use among American high school seniors, and trends in use since 1975. Also reported are data on grade of first use, trends in use at earlier grade levels, intensity of drug use, attitudes and beliefs among seniors concerning various types of drug use, and their perceptions of certain relevant aspects of the social environment.

The eleven separate classes of drugs distinguished are marijuana (including hashish), inhalants, hallucinogens, cocaine, heroin, natural and synthetic opiates other than heroin, stimulants, sedatives, tranquilizers, alcohol, and cigarettes. (This particular organization of drug use classes was chosen to heighten comparability with a parallel series of publications based on national household surveys on drug abuse.) Separate statistics are also presented here for several sub-classes of drugs: PCP and LSD (both hallucinogens), barbiturates and methaqualone (both sedatives) and the amyl and butyl nitrites (both inhalants). PCP and the nitrites were added to our measurement for the first time in 1979 because of increasing concern over their rising popularity and possibly deleterious effects; trend data are thus only available for them

*Those interested in obtaining a copy free of charge may write to the National Clearinghouse for Drug Abuse Information, National Institute on Drug Abuse, 5600 Fishers Lane, Rockville, Maryland 20857.

since 1979. Barbiturates and methaqualone, which constitute the two components of the "sedatives" class as used here, have been separately measured from the outset. They have been presented separately because their trend lines are substantially different.

Except for the findings on alcohol, cigarettes, and non-prescription stimulants, practically all of the information reported here deals with illicit drug use. Respondents are asked to exclude any occasions on which they used any of the psychotherapeutic drugs under medical supervision. (Some data on the medically supervised use of such drugs are contained in the full 1977, 1978, 1981, and 1984 volumes.)

We have chosen to focus considerable attention on drug use at the higher frequency levels rather than simply reporting proportions who have ever used various drugs. This is done to help differentiate levels of seriousness, or extent, of drug involvement. While we still lack any public consensus of what levels of use constitute "abuse," there is surely a consensus that higher levels of use are more likely to have detrimental effects for the user and society than are lower levels. We have also introduced indirect measures of dosage per occasion, by asking respondents the duration and intensity of the highs they usually experience with each type of drug. One section of this report deals with those results.

In 1982 we added a special section, under "Other Findings from the Study," dealing with the use of non-prescription stimulants, including diet pills, stay-awake pills, and the "look-alike" pseudo-amphetamines. Questions on these substances were placed in the survey beginning in 1982 because the use of such substances appeared to be on the rise, and also because their inappropriate inclusion by some respondents in their answers about amphetamine use were affecting the observed trends. The "Other Findings from the Study" section presents some trend results on those non-prescription substances, separately.

The "Other Findings" section also contains the results from a set of questions on the use of marijuana at a daily or near-daily level. These questions were added to enable us to develop a more complete individual history of daily use over a period of years, and they reveal some very interesting facts about the frequent users of this drug.

In addition, the "Other Findings" section also contains synopses of findings presented in two journal articles this year—one dealing with the effects of post high school environments and role transitions on drug use, and the other with the issue of distinguishing maturational change from period effects and differences associated with being in a particular class cohort. Both of these articles make use of the panel data gathered on sequential classes of seniors after they leave high school.

Purposes and Rationale for this Research

Perhaps no area is more clearly appropriate for the application of systematic research and reporting than the drug field, given its rapid rate of change, its importance for the well-being of the nation, and the amount of legislative and administrative intervention addressed to it. Young people are often at the leading edge of social change; and this has been particularly true in the case of drug use. The surge in illicit drug use during the last two decades has proven to be primarily a youth phenomenon, with onset of use most likely to occur during adolescence. From one year to the next particular drugs rise or fall in popularity, and related problems occur for youth, for their families, for governmental agencies, and for society as a whole. This year's findings show that considerable change is continuing to take place.

One of the major purposes of the Monitoring the Future series is to develop an accurate picture of the current situation and of current trends. A reasonably accurate assessment of the basic size and contours of the problem of illicit drug use among young Americans is an important starting place for rational public debate and policymaking. In the absence of reliable prevalence data, substantial misconceptions can develop and resources can be misallocated. In the absence of reliable data on trends, early detection and localization of emerging problems are more difficult, and assessments of the impact of major historical and policy-induced events are much more conjectural.

The Monitoring the Future study has a number of purposes other than prevalence and trend estimation—purposes which are not addressed in any detail in this volume. Among them are: gaining a better understanding of the lifestyles and value orientations associated with various patterns of drug use, and monitoring how those orientations are shifting over time; determining the immediate and more general aspects of the social environment which are associated with drug use and abuse; determining how drug use is affected by major transitions in social environment (such as entry into military service, civilian employment, college, unemployment) or in social roles (marriage, parenthood); distinguishing age effects from cohort and period effects in determining drug use; determining the effects of social legislation on all types of drug use; and determining the changing connotations of drug use and changing patterns of multiple drug use among youth. Readers interested in publications dealing with any of these other areas should write the authors at the Institute for Social Research, Rm. 2030, The University of Michigan, Ann Arbor, Michigan, 48106-1248.

Research Design and Procedures

The basic research design involves data collections from high school seniors during the spring of each year, beginning with the class of 1975. Each data collection takes place in approximately 125 to 140 public and private high schools selected to provide an accurate cross-section of high school seniors throughout the United States.

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Reasons for Focusing on High School Seniors. There are several reasons for choosing the senior year of high school as an optimal point for monitoring the drug use and related attitudes of youth. First, the completion of high school represents the end of an important developmental stage in this society, since it demarcates both the end of universal public education and, for many, the end of living in the parental home. Therefore, it is a logical point at which to take stock of the cumulated influences of these two environments on American youth. Further, the completion of high school represents the jumping-off point from which young people diverge into widely differing social environments and experiences. Finally, there are some important practical advantages to building a system of data collections around samples of high school seniors. The need for systematically repeated, large-scale samples from which to make reliable estimates of change requires that considerable stress be laid on efficiency as well as feasibility. The last year of high school constitutes the final point at which a reasonably good national sample of an age-specific cohort can be drawn and studied economically.

One limitation in the design is that it does not include in the target population those young men and women who drop out of high school before graduation—between 15 and 20 percent of each age cohort. The omission of high school dropouts does introduce biases in the estimation of certain characteristics of the entire age group; however, for most purposes, the small proportion of dropouts sets outer limits on the bias. Further, since the bias from missing dropouts should remain just about constant from year to year, their omission should introduce little or no bias into the various types of change being estimated for the majority of the population.* Indeed, we believe the changes observed over time for those who finish high school are likely to parallel the changes for dropouts in most instances.

Sampling Procedures. A multi-stage procedure is used for securing a nationwide sample of high school seniors. Stage 1 is the selection of particular geographic areas, Stage 2 the selection of one or more high schools in each area, and Stage 3 the selection of seniors within each high school.

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*An examination of U. S. Census data shows that the proportion of all American 16 to 24 year olds who are not high school graduates, nor actively enrolled in school, remained virtually constant (at about 15%) between 1970 and 1980. (Bureau of the Census, "School Enrollment—Social and Economic Characteristics of Students," Series P-20, various years).

Also see Johnston, L.D. and O'Malley, P.M. Issues of validity and population coverage in student surveys of drug use. Invited presentation at a National Institute on Drug Abuse technical review on Current Challenges to Methods of Drug Abuse Estimation held in Bethesda, MD, 8-9 May, 1984. (Ann Arbor: Institute for Social Research, 1984, 27 pp.)

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This three-stage sampling procedure yielded the following numbers of participating schools and students:

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984
Number public schools	111	108	108	111	111	107	109	116	112	117
Number private schools	14	15	16	20	20	20	19	21	22	17
Total number schools	125	123	124	131	131	127	128	137	134	134
Total number students	15,791	16,678	18,436	18,924	16,662	16,524	18,267	18,368	16,947	16,499
Student response rate	78%	77%	79%	83%	82%	82%	81%	83%	84%	83%

Questionnaire Administration. About ten days before the administration students are given flyers explaining the study. The actual questionnaire administrations are conducted by the local Institute for Social Research representatives and their assistants, following standardized procedures detailed in a project instruction manual. The questionnaires are administered in classrooms during a normal class period whenever possible; however, circumstances in some schools require the use of larger group administrations.

Questionnaire Format. Because many questions are needed to cover all of the topic areas in the study, much of the questionnaire content is divided into five different questionnaire forms (which are distributed to participants in an ordered sequence that insures five virtually identical subsamples). About one-third of each questionnaire form consists of key or "core" variables which are common to all forms. All demographic variables, and nearly all of the drug use variables included in this report, are included in this "core" set of measures. Many of the questions dealing with attitudes, beliefs, and perceptions of relevant features of the social milieu are contained in only a single form, however, and are thus based on one-fifth as many cases (i.e., approximately 3,500 respondents).

Representativeness and Validity

School Participation. Schools are invited to participate in the study for a two-year period, and with only very few exceptions, each school in the original sample, after participating for one year of the study, has agreed to participate for a second year. Thus far, from 66 percent to 80 percent of the original schools invited to participate have agreed to do so each year; for each school refusal, a similar school (in terms of size, geographic area, urbanicity, etc.) is recruited as a replacement. The selection of replacement schools almost entirely removes problems of bias in region, urbanicity, and the like, that might result from certain schools refusing to participate. Other potential biases are more subtle, however. If, for example, it turned out that most schools with "drug problems" refused to participate, that would seriously bias the sample. And if any other single factor were dominant in most refusals, that also might suggest a source of serious bias. In fact, however, the reasons for

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a school refusing to participate are varied and are often a function of happenstance events; only a small proportion specifically object to the drug content of the survey. Thus we feel fairly confident that school refusals have not seriously biased the surveys.

Schools are selected in such a way that half of each year's sample is comprised of schools which participated the previous year, and half is comprised of schools which will participate the following year. We make use of this staggered half-sample feature of the design to check on possible biases in the year-to-year trend estimates derived from the full samples. Specifically, separate sets of one-year trends are computed using first that half sample of schools which participated in both 1975 and 1976, then the half-sample which participated in both 1976 and 1977, and so on. Thus, each one-year trend estimate derived in this way is based on a set of about 65 schools. When the resulting trend data (examined separately for each class of drugs) are compared with trends based on the total sample of schools, the results are highly similar, indicating that the trend estimates are little affected by turnover or shifting refusal rates in the school samples. (The absolute prevalence estimates for a given year are not as accurate using just the half-sample, of course.)

Student Participation. Completed questionnaires are obtained from 77% to 83% of all sampled students in participating schools each year. The single most important reason that students are missed is absence from class at the time of data collection; in most cases it is not workable to schedule a special follow-up data collection for absent students. Students with fairly high rates of absenteeism also report above-average rates of drug use; therefore, there is some degree of bias introduced into the prevalence estimates by our missing the absentees. Much of that bias could be corrected through the use of special weighting; however, we decided not to do so because the bias in overall drug use estimates was determined to be quite small, and because the necessary weighting procedures would have introduced undesirable complications (Appendix A of the full reports provides a discussion of this point). Of course, some students are not absent from class, but simply refuse when asked to complete a questionnaire. However, the proportion of explicit refusals amounts to only about 1 percent of the target sample.

Sampling Accuracy of the Estimates. For purposes of this introduction, it is sufficient to note that drug use estimates based on the total sample have confidence intervals that average about ±1% (as shown in Table 1, confidence intervals vary from ±2.2% to smaller than ±0.3%, depending on the drug). This means that had we been able to invite all schools and all seniors in the 48 coterminous states to participate, the results from such a massive survey should be within about one percentage point of our present findings for most drugs at least 95 times out of 100. We consider this to be a high level of accuracy, and one that permits the detection of fairly small changes from one year to the next.

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Consistency and the Measurement of Trends. One other point is worth noting in a discussion of the validity of our findings. The Monitoring the Future project is, by intention, a study designed to be sensitive to changes from one time to another. Accordingly, the measures and procedures have been standardized and applied consistently across each data collection. To the extent that any biases remain because of limits in school and/or student participation, and to the extent that there are distortions (lack of validity) in the responses of some students, it seems very likely that such problems will exist in much the same way from one year to the next. In other words, biases in the survey estimates will tend to be consistent from one year to another, which means that our measurement of trends should be affected very little by any such biases. The smooth and consistent nature of most trend curves reported for the various drugs provides rather compelling empirical support for this assertion.

A Caution about the Stimulant Results

In reporting their psychotherapeutic drug use, respondents are instructed to exclude not only medically-supervised use, but also any use of over-the-counter (i.e., non-prescription) drugs. However, in recent years some of those reporting stimulant (amphetamine) use have erroneously been including the use of over-the-counter stay-awake and diet pills, as well as other pills intentionally manufactured to look like amphetamines, and sold under names which sound like them, but which contain no controlled substances. The advertising and sale of over-the-counter diet pills (most of which contain the mild stimulant phenylpropanolamine) burgeoned in recent years, as has also been true for the "sound-alike, look-alike" pills (most of which contain caffeine). We believe that the inappropriate inclusion of these non-controlled stimulants in the responses to our surveys accounts for much of the observed sharp rise in reported "amphetamine" use in 1980 and 1981. Therefore, the reader is advised to view the unadjusted amphetamine-use statistics for those years with some caution.

In the 1982 survey, we introduced some new questions on the use of both controlled and non-controlled stimulants. (We also kept the old version of the question in two questionnaire forms so that it would be possible to "splice" the trend lines resulting from the old and new questions.) Since 1982 we have included statistics on "amphetamines, adjusted"—which are based on these new questions contained in three questionnaires in 1982 and 1983 and then in all five questionnaires in 1984 and following. We think these new questions have been successful at getting respondents to exclude over-the-counter stimulants and those "look-alike" stimulants which the user knows are look-alikes. However, as is true with several other drug classes, the user may at times be ingesting a substance other than the one he or she thinks it to be. Thus, some erroneous self-reports of "amphetamine" use may remain.

An upward bias from the inclusion of over-the-counter and look-alike stimulants would have affected not only the stimulant (amphetamine) trend statistics, but also trend statistics for the composite indexes

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entitled "use of any illicit drug" and "use of any illicit drug other than marijuana." Since these indexes had been used consistently in this monograph series to compare important subgroups (such as those defined by sex, region, college plans, etc.) we decided to keep them, but to include an adjusted value based on calculations in which amphetamines have been excluded. In other words, this adjusted statistic reflects "use of any illicit drugs other than marijuana or amphetamines," and is included to show what happens when amphetamine use—and any upward biases in trends it might contain—is excluded entirely from the trend statistics since 1975.

A second adjusted statistic is also included since 1982, when the new amphetamine questions were introduced. It gives our best estimate of overall illicit drug use, including the use of real amphetamines as measured by the revised amphetamine questions. A ◄ symbol is used to denote this estimate in any figures presenting data on these two illicit drug use indexes, whereas a ◄ symbol is used to denote estimates in which amphetamines are excluded entirely. (See Figure C for an example.)

It is worth noting that the two classes of drug use which are not actually amphetamine use, but which are sometimes inadvertently reported as amphetamine use, reflect two quite different types of behavior. Presumably most users of over-the-counter diet and stay-awake pills are using them for functional reasons and not for recreational purposes. On the other hand, it seems likely that most users of the look-alike pseudo-amphetamines are using them for recreational purposes. (In fact, in many cases the user who purchased them on the street may think he or she has the real thing.) Thus, the inclusion of the look-alikes may have introduced a bias in the estimates of true amphetamine use, but not in the estimates of a class of behavior—namely, trying to use controlled stimulants for recreational purposes. Some would argue that the latter is the more important factor to be monitoring in any case.

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OVERVIEW OF KEY FINDINGS

The results presented in this report are based on large, representative sample surveys of the last ten graduating classes enrolled in public and private high schools across the United States. The following is a synopsis of the most important findings to emerge in the 1984 survey:

- This year's findings indicate that the gradual decline in overall illicit drug use, which began a couple of years ago, is still continuing. The adjusted measure of current use of an illicit drug (that is, some use in the past 30 days of one or more illicit drugs) is down from 31% in 1983 to 29% in 1984, following a drop in the earlier unadjusted measure from 39% in 1979 to 32% in 1983. Annual prevalence (the proportion reporting any use in the prior year), unadjusted, dropped from 54% to 49% between 1979 and 1983, and the new adjusted measure dropped another 1.6% this year. Lifetime prevalence is down less over that interval, suggesting that an increased rate of quitting is largely responsible for the decline.*

- Much of this decline is attributable to an ongoing drop in the use of the most popular of the illicit drugs, marijuana. Current use has dropped from 37% in 1979 to 25% in 1984; and annual prevalence has dropped from 51% to 40% over the same interval.

- In addition, the proportion of seniors reporting the use of illicit drugs other than marijuana has also been dropping gradually since 1981. Between 1981 and 1983 the unadjusted monthly prevalence for this class of behavior dropped from 22% to 18%. (Only adjusted statistics are available since 1983, and these show only a very slight further decline in 1984 of 0.3%.)

- No given class of illicit drug exhibited a dramatic decline this year. Rather, a number continued their gradual longer-term decline. Among these are three of the major classes of psychotherapeutic drugs (amphetamines, sedatives, and tranquilizers) as well as hallucinogens.

- The psychotherapeutic drugs are quite different from one another in their recent histories of use among high school seniors. Amphetamines (prescription-controlled stimulants) are the second most prevalent of the illicitly used drugs, following marijuana. That, plus

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*Statistics adjusted for the overreporting of amphetamines tell much the same story. See text for details.

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the fact that their use appeared to have been rising from 1975 through 1981, makes their decline from 20% annual prevalence (adjusted) in 1982 to 17.7% in 1984 particularly important. Current prevalence dropped even more, proportionately.

- Methaqualone also reached its peak in 1981, at 8% annual prevalence, but was down to 4% by 1984.

- By way of contrast, barbiturates and tranquilizers have been declining steadily over a longer period. Barbiturates have been on the decline since this study began in 1975; annual prevalence in that peak year was 11%, versus only 5% today. (Annual prevalence dropped 0.3% this year, while 30-day prevalence dropped 0.4%.)

- Tranquilizers began to decline after 1977, when annual prevalence was 11% vs. 6% in 1984. (Annual and 30-day prevalence fell 0.8% and 0.4%, respectively, from 1983 to 1984.)

- The remaining class of psychotherapeutic drugs, opiates other than heroin, has shown only a very slight decline since 1980 (annual prevalence was 6.3% in 1980 vs. 5.2% in 1984), but none of the decline occurred this year.

- The use of LSD had remained virtually constant between 1976 and 1981 (most likely following a period of decline in the early to mid-1970's). Since 1981, however, annual prevalence has fallen gradually from 6.5% to 4.7% in 1984 (and 30-day prevalence has fallen from 2.5% in 1981 to 1.5% in 1984).

- The other major hallucinogenic drug, PCP, showed a dramatic drop between 1979 and 1981, when annual and 30-day prevalence both dropped by more than two-thirds. Since 1981 there has been little further change. Annual prevalence now stands at only 2.3% nationwide, though it should be noted that press reports suggest that at least two cities in the country (Washington, D.C. and Los Angeles), may be experiencing higher levels of use.

- Not all drugs showed a decline in 1984. Inhalant use, for example, which declined some between 1979 (when first measured) and 1981 (adjusted annual prevalence fell from 9.2% to 6.0%), has shown some increase in the past three years (to 7.9%).

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- The annual prevalence of heroin use dropped by one-half between 1975 and 1979 (from 1.0% to 0.5%) and has remained virtually constant since.

- The annual (and the 30-day) prevalence statistics for cocaine have likewise remained quite constant since 1979, but unlike heroin, this period of stability was preceded by one of sharp increase in use rather than a decline. Annual prevalence more than doubled between 1975 and 1979, rising from 5.7% to 12%.

  The stability in prevalence statistics since 1979 would appear to be in conflict with continuing reports from the treatment community and NIDA's DAWN statistics on emergency room admissions, both of which suggest an ever-growing number of casualities from cocaine. We offer two interpretations which would help to reconcile these seemingly contradictory facts: one is that a several year lag time between initiation and agency-identified problem use would tend to predict an increase in problems in the early 1980's as a result of the increase in use observed in this study in the late 70's. The other is that any increase in prevalence which is occurring now is taking place among older age groups.

  Our confidence in the recent cocaine results from this study is bolstered by the fact that the measures of both exposure to cocaine use and reported cocaine use by friends have remained stable since 1979. Two factors have changed significantly, however, and we think this may be predictive of a downturn in cocaine use in this age group. The percent of seniors saying they see "great risk" associated with regular cocaine use has been rising at an accelerating rate from 69% in 1980 to 79% in 1984, and the percent who personally disapprove of even experimenting with it has risen about 5% (to 80%) over about the same period. Much of this change occurred between 1983 and 1984.

  Finally, some regional differences in this year's trends in cocaine use should be noted. Our best estimate is that there has been some increase in cocaine use in the Northeastern region of the country (largely offset in the national statistics by a decrease in the North Central region). The upward trend in the Northeast is statistically significant and does show up in the half sample of matched schools in 1983-84; however, because our regional estimates have larger margins of error than the national estimates, we have some uncertainty about the validity of this finding based on a single year.

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- Among the most important changes observed over the interval of 1975-1984 have been those found for current daily marijuana use (defined as use on twenty or more occasions in the past thirty days). Between 1975 (when this study began) and 1978, daily marijuana use climbed rapidly and steadily from 6% to 11% of all seniors. Since 1978, however, there has been just about as precipitous a fall in daily use, as young people's concerns about the consequences of regular use have grown and peer acceptance has fallen. (Some 67% now attribute great risk to regular marijuana use, up from 35% in 1978; and in 1984 fully 85% of all seniors said they personally disapproved of regular marijuana use, up from 68% in 1978. Some 79% think their friends would disapprove of such behavior, up from 69% in 1977.) This year, daily use is down to its lowest point since the study began, at 5.0%, or less than half of its peak level in 1978. Last year it stood at 5.5%.

  A set of questions introduced in 1982 showed that our measure of current daily marijuana use considerably understates the number who have been daily users at some time. In 1982, fully 20% of the sample said they had smoked marijuana daily, or near daily, continuously for a month or more at some time in their lives. (See the section on "Other Recent Findings from the Study" for more details.) This statistic also dropped in 1984 to 16%, which, it should be noted, is about three times the current daily marijuana use figure.

- The greater moderation by American young people in their use of illicit drugs is evidenced not only by the fact that fewer are using most types of drugs, but also by the fact that, even among the users of many of these classes, use appears to be less intense. Since 1975 there has been a drop in the degree and/or duration of the "highs" reported by users for marijuana, stimulants, cocaine, sedatives, hallucinogens, and opiates other than heroin. To take another measure, in 1976, 65% of those who reported using marijuana in the prior year said they averaged less than one "joint" per day, versus 77% of such users in 1984.

- The prevalence of the several classes of non-prescription stimulants were estimated for the first time in 1982. (See the last section of this report.) The look-alike pseudo-amphetamines, which were virtually non-existent a few years ago, have attained a fair-sized

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market in just a few years. Lifetime prevalence in 1984 is 15%, monthly prevalence 4%, and daily prevalence 0.4%. These numbers are about the same as last year's.

- Also little changed from last year is the use of over-the-counter diet pills. These have been used by a sizeable proportion of seniors (30% lifetime prevalence and 10% in just the prior month). Use is particularly high among females: 43% lifetime prevalence, 14% in the last month, and 1.9% current daily use. (All other stimulants, including amphetamines, are used by roughly equal proportions of both sexes.)

- Stay-awake pills sold over-the-counter are used by fewer seniors: 23% lifetime prevalence, and 6% in the last month. While such pills may be used to stay awake for studying, the prevalence of their use is not appreciably higher among the college-bound. Their use has risen gradually since 1982, when they were first measured.

- We turn next to the two major licit drugs, alcohol and nicotine. Alcohol use had remained relatively stable in this population since 1975, though at high levels.

  For example, lifetime prevalence started at 90% in 1975, rose to 93% by 1977, and has remained there since. On the other hand, the number of current (past 30 days) users, which rose from 68% in 1975 to 72% in 1978, started falling slightly after 1980 and now stands at 67%. Of more importance, daily use, which reached a high of 6.9% in 1979 (as did daily marijuana use), has fallen since to 4.8%. Clearly there has been no displacement from marijuana to alcohol, as some conjectured. Presumably, this is a result of a more general shift in the propensity to use chemicals to alter mood and perception; but alcohol has moved much less, presumably because cultural attitudes and beliefs about it are far less labile than for marijuana.

- The rate of occasional heavy drinking (or party drinking), rose from 37% in 1975 saying that on at least one occasion they had taken five or more drinks in a row during the prior two weeks, to 41% in 1979. It remained at that disturbingly high level through 1983, though this year for the first time a drop in the "party drinking" is observed, with that statistic falling to 39%.

- Another licit substance about which attitudes and beliefs have been in a greater state of flux in recent years is tobacco. Cigarette smoking dropped by

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roughly one third between 1977 and 1981 for this age group: daily smoking from 29% to 20% and daily use of half-a-pack per day or more from 19.4% to 13.5%. This sharp decline ended, however, to be followed by several years of stability. In 1984 there is once again evidence of a decline as daily smoking fell to 19% and half-a-pack per day to 12.3%.

As with marijuana, it appears that the rather large drop in daily smoking rates was in response to personal concerns about the health consequences of use as well as perceived peer disapproval of use, both of which rose steadily through 1980, faltered for a few years, and then rose again in 1984. Today fewer males than females are regular smokers (11.1% of the males smoke half-a-pack a day vs. 12.9% of the females), a reversal of the differences observed in the first few years of the study. A far greater difference, however, is associated with college plans: only 6.5% of the college-bound smoke half-a-pack or more daily compared with 20% of the non-college-bound.

- In sum, usage levels for many illicit drugs have declined, or are declining, significantly from the peak levels attained during the late seventies. In addition, cigarette use has declined substantially, and even alcohol is showing some signs of gradual moderation.

Despite this generally good news about the direction in which things have been moving, we continue to feel that it would be a disservice to leave the impression that the drug abuse problem among American youth is anywhere close to being solved. It is still true that:

Nearly two-thirds of all American young people (62%) try an illicit drug before they finish high school.

Fully 40% have illicitly used drugs other than marijuana.

At least one in every twenty high school seniors is actively smoking marijuana on a daily basis, and fully 16% have done so for at least a month at some time in their lives.

About one in twenty is drinking alcohol daily; and 39% have had five or more drinks in a row at least once in the past two weeks.

Some 29% have smoked cigarettes in the prior month, a substantial proportion of whom are daily smokers (19%), or soon will be.

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- These remain disturbingly high levels of substance use and abuse by this nation's youth. We estimate them to have the highest levels of illicit drug involvement to be found in any developed country in the world. They also have exceptionally high rates by long-term historical standards in this country.

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PREVALENCE OF DRUG USE

This section summarizes the levels of drug use reported by the class of 1984. Data are included for lifetime use, use during the past year, use during the past month, and daily use. There is also a comparison of key subgroups in the population (based on sex, college plans, region of the country, and population density or urbanicity).

Because we think that the revised questions on amphetamine use, introduced in 1982, give a more accurate picture of the actual use of that controlled substance, all references to amphetamine prevalence rates in this section will be based on that revised version (including references to proportions using "any illicit drug" or "any illicit drug other than marijuana").

It should be noted that all of the prevalence statistics given in this section are based on participating seniors only. Prevalence rate estimates reflecting adjustments for absentees and dropouts may be found in Appendix A to this report.

Prevalence of Drug Use in 1984: All Seniors

Lifetime, Monthly, and Annual Prevalence

- Nearly two-thirds of all seniors (62%) report illicit drug use (adjusted for overreporting of amphetamines) at some time in their lives. However, a substantial proportion of them have used only marijuana (21% of the sample or 34% of all illicit users).

- Four in every ten seniors (40%) report using an illicit drug other than marijuana (adjusted) at some time.*

- Figure A gives a ranking of the various drug classes on the basis of their lifetime prevalence figures. In addition, Table 1 provides the 95% confidence interval around the lifetime prevalence estimate for each drug.

- Marijuana is by far the most widely used illicit drug with 55% reporting some use in their lifetime, 40% reporting some use in the past year, and 25% reporting some use in the past month.

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*Use of "other illicit drugs" includes any use of hallucinogens, cocaine, or heroin or any use of other opiates, stimulants, sedatives, or tranquilizers which is not under a doctor's orders.

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- The most widely used class of other illicit drugs is stimulants (28% lifetime prevalence, adjusted).* Next come inhalants (adjusted) at 19% and cocaine at 16%. These are followed closely by hallucinogens (adjusted) at 13%, sedatives at 13%, and tranquilizers at 12%.**

- The inhalant estimates have been adjusted upward because we observed that not all users of one sub-class of inhalants—amyl and butyl nitrites (described below)—report themselves as inhalant users. Because we included questions specifically about nitrite use for the first time in one 1979 questionnaire form, we were able to discover this problem and make estimates of the degree to which inhalant use was being underreported in the overall estimates. As a result, all prevalence estimates for inhalants have been increased, with the proportional increase being greater for the more recent time intervals (i.e., last month, last year) because use of the other common inhalants, such as glue and aerosols, is more likely to have been discontinued prior to senior year, making nitrite use proportionally more important in later years.

- The specific classes of inhalants known as amyl and butyl nitrites, which are sold legally and go by the street names of "poppers" or "snappers" and such brand names as Locker Room and Rush, have been tried by one in every twelve seniors (8%).

- We also discovered in 1979, by adding questions specifically about PCP use, that some users of PCP do not report themselves as users of hallucinogens—even though PCP is explicitly included as an example in the questions about hallucinogens. Thus, since 1979 the hallucinogen prevalence and trend estimates also have been adjusted upward to correct for this known underreporting.***

- Lifetime prevalence for the specific hallucinogenic drug PCP now stands at 5%, somewhat lower than that of the other most widely used hallucinogen, LSD (lifetime prevalence, 8%).

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*See caution at the end of the introductory section concerning the interpretation of stimulant statistics.

**Only use which was not medically supervised is included in the figures cited in this volume.

***Because the data to adjust inhalant and hallucinogen use are available from only a single questionnaire form in a given year, the original uncorrected variables will be used in most relational analyses. We believe relational analyses will be least affected by these underestimates, and that the most serious impact is on prevalence estimates, which are adjusted appropriately.

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TABLE 1

Prevalence (Percent Ever Used) of Sixteen Types of Drugs: Observed Estimates and 95% Confidence Limits (1984)

(Approx. N = 15900)

	Lower limit	Observed estimate	Upper limit
Marijuana/Hashish	52.7	54.9	57.1
Inhalants[a]	13.4	14.4	15.5
Inhalants Adjusted[b]	*17.8*	*19.0*	*20.2*
Amyl & Butyl Nitrites[c]	6.8	8.1	9.6
Hallucinogens	9.6	10.7	11.9
Hallucinogens Adjusted[d]	*12.4*	*13.3*	*14.3*
LSD	7.1	8.0	9.1
PCP[c]	4.0	5.0	6.3
Cocaine	14.8	16.1	17.5
Heroin	1.0	1.3	1.6
Other opiates[e]	8.9	9.7	10.5
Stimulants Adjusted[e,f]	26.3	27.9	29.6
Sedatives[e]	12.1	13.3	14.6
Barbiturates[e]	8.8	9.9	11.1
Methaqualone[e]	7.3	8.3	9.4
Tranquilizers[e]	11.2	12.4	13.7
Alcohol	91.2	92.6	93.8
Cigarettes	68.0	69.7	71.4

[a]Data based on four forms. N is four-fifths of N indicated.

[b]Adjusted for underreporting of amyl and butyl nitrites. See text for details.

[c]Data based on a single questionnaire form. N is one-fifth of N indicated.

[d]Adjusted for underreporting of PCP. See text for details.

[e]Only drug use which was not under a doctor's orders is included here.

[f]Adjusted for overreporting of non-prescription stimulants.

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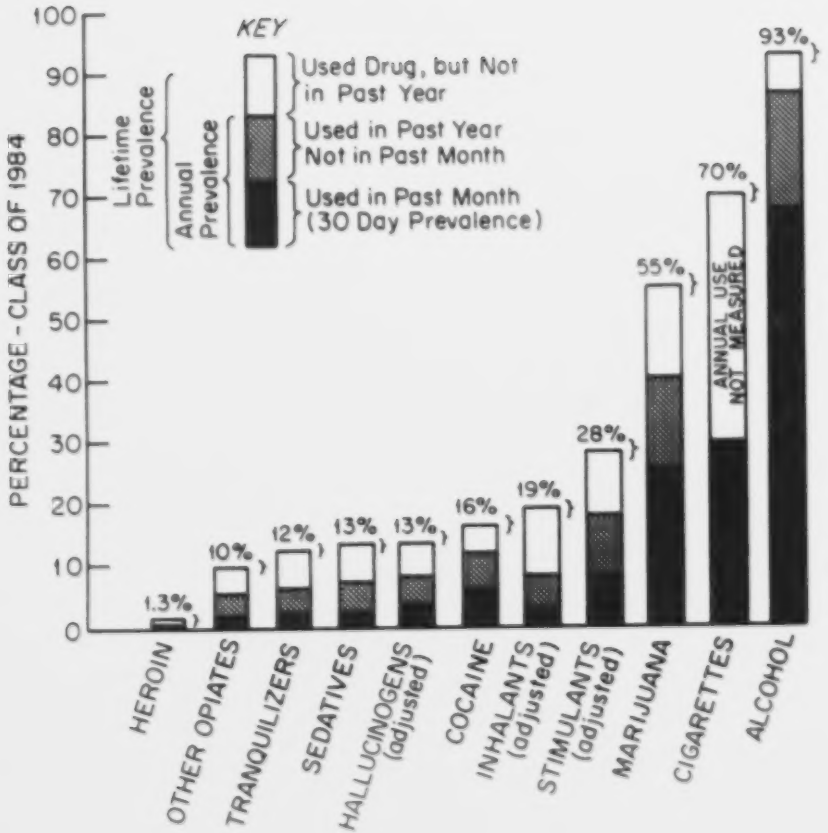
FIGURE A

Prevalence and Recency of Use
Eleven Types of Drugs, Class of 1984



NOTES: The bracket near the top of a bar indicates the lower and upper limits of the 95% confidence interval.

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TABLE 2

Prevalence (Percent Ever Used) and Recency of Use of Sixteen Types of Drugs (1984)

(Approx. N = 15900)

	Ever used	Past month	Past year, not past month	Not past year	Never used
Marijuana/Hashish	34.9	23.2	14.8	14.9	45.1
Inhalants[a]	14.4	1.9	3.2	9.3	85.6
Inhalants Adjusted[b]	*19.0*	*2.7*	*5.2*	*11.1*	*81.0*
Amyl & Butyl Nitrites[c]	8.1	1.4	2.6	4.1	91.9
Hallucinogens	10.7	2.6	3.9	4.2	89.3
Hallucinogens Adjusted[d]	*13.3*	*3.6*	*4.3*	*5.4*	*86.7*
LSD	8.0	1.3	3.2	3.3	92.0
PCP[c]	5.0	1.0	1.3	2.7	95.0
Cocaine	16.1	5.8	5.8	4.5	83.9
Heroin	1.3	0.3	0.2	0.8	98.7
Other opiates[e]	9.7	1.8	3.4	4.5	90.3
Stimulants Adjusted[e,f]	*27.9*	*8.3*	*9.4*	*10.2*	*72.1*
Sedatives[e]	13.3	2.3	4.3	6.7	86.7
Barbiturates[e]	9.9	1.7	3.2	5.0	90.1
Methaqualone[e]	8.3	1.1	2.7	4.5	91.7
Tranquilizers[e]	12.4	2.1	4.0	6.3	87.6
Alcohol	92.6	67.2	18.8	6.6	7.4
Cigarettes	69.7	29.3	(40.4)[g]		30.3

[a]Data based on four questionnaire forms. N is four-fifths of N indicated.

[b]Adjusted for underreporting of amyl and butyl nitrites (see text).

[c]Data based on a single questionnaire form. N is one-fifth of N indicated.

[d]Adjusted for underreporting of PCP (see text).

[e]Only drug use which was not under a doctor's orders is included here.

[f]Adjusted for overreporting of non-prescription stimulants.

[g]The combined total for the two columns is shown because the question asked did not discriminate between the two answer categories.

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- Opiates other than heroin have been used by about one in ten seniors (10%).

- Only 1.3% of the sample admitted to ever using any heroin, the most infrequently used drug. But given the highly illicit nature of this drug, we deem it the most likely to be underreported.

- Within the general class "sedatives," the specific drug methaqualone has been used by nearly as many seniors (8% lifetime prevalence) as the other, much broader subclass of sedatives, barbiturates (10%).

- The illicit drug classes remain in roughly the same order whether ranked by lifetime, annual, or monthly prevalence, as the data in Figure A illustrate. The only important change in ranking occurs for inhalants, because use of certain of them, like glues and aerosols, tends to be discontinued at a relatively early age.

- The drug classes currently showing the highest rates of discontinuation (defined as the percent of previous users who did not use in the past twelve months) are heroin (62%), inhalants adjusted (58%), methaqualone (54%), PCP (54%), the nitrite inhalants (51%), tranquilizers (51%), and barbiturates (51%). Somewhat lower rates of discontinuation are observed for other opiates than heroin (46%), LSD (41%), and stimulants adjusted (37%). Marijuana (27%) shows the lowest discontinuation rates of the illicit drugs. Cocaine also has a particularly low discontinuation rate (28%), in large part because it tends to have the oldest average age of initiation: in other words, a high proportion of those who have used in their lifetime used initially in the twelfth grade. Alcohol shows by far the lowest rate of overall discontinuation (7%).

- Use of either of the two major licit drugs, alcohol and cigarettes, remains more widespread than use of any of the illicit drugs. Nearly all students have tried alcohol (93%) and the great majority (67%) have used it in just the past month.

- Some 70% report having tried cigarettes at some time, and 29% smoked at least some in the past month.

Daily Prevalence

- Frequent use of these drugs is of greatest concern from a health and safety standpoint. Tables 6 and 10 and Figure B show the prevalence of daily or near-daily use of the various classes of drugs. For all drugs, except cigarettes, respondents are considered daily users if they indicate that they had used the drug on

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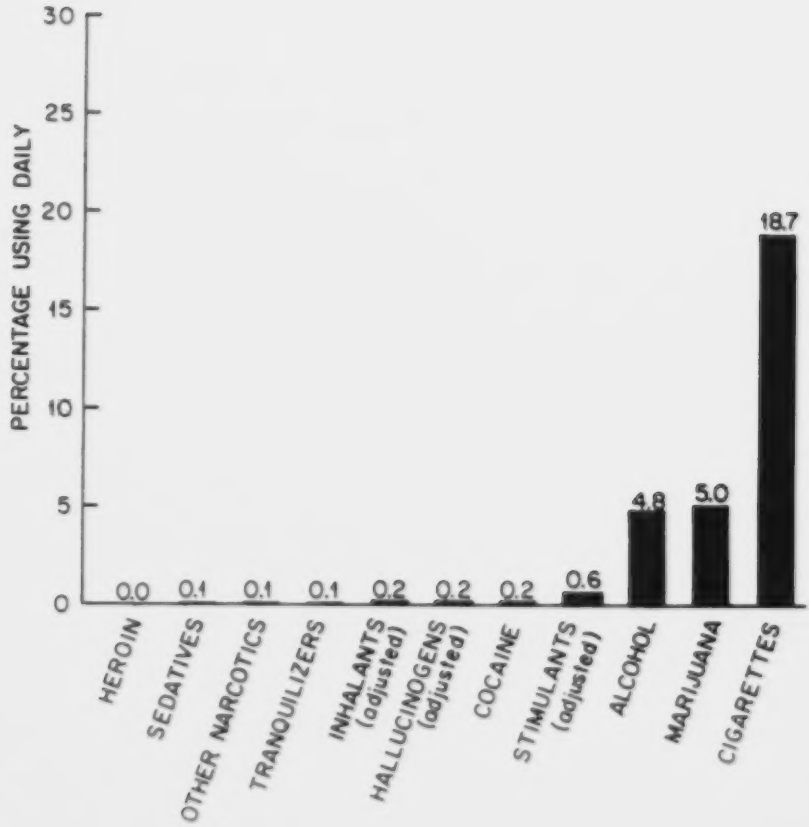
FIGURE B

Thirty-Day Prevalence of Daily Use
Eleven Types of Drugs, Class of 1984



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twenty or more occasions in the preceding 30 days. In the case of cigarettes, respondents explicitly state the use of one or more cigarettes per day.

- The displays show that cigarettes are used daily by more of the respondents (19%) than any of the other drug classes. In fact, 12.3% say they smoke half-a-pack or more per day.

- Another important fact is that marijuana is still used on a daily or near-daily basis by a substantial fraction of the age group (5.0%), or about one in every twenty seniors. This year nearly the same proportion (4.8%) drink alcohol that often.

- Less than 1% of the respondents report daily use of any one of the illicit drugs other than marijuana. Still, 0.6% report unsupervised daily use of amphetamines (adjusted for overreporting of the non-prescription stimulants). The next highest daily-use figures are for cocaine, inhalants (adjusted), and hallucinogens (adjusted), all at 0.2%. While very low, these figures are not inconsequential, given that 1% of each high school class represents over 30,000 individuals.

- Tranquilizers, sedatives, and opiates other than heroin are used daily by only about 0.1%.

- While daily alcohol use stands at 4.8% for this age group, a substantially greater proportion report occasional heavy drinking. In fact, 39% state that on at least one occasion during the prior two-week interval they had five or more drinks in a row.

Prevalence Comparisons for Important Subgroups

Sex Differences

- In general, higher proportions of males than females are involved in illicit drug use, especially heavy drug use; however, this picture is a complicated one (see Tables 3 through 6).

- Overall marijuana use is somewhat higher among males, and daily use of marijuana is more than twice as frequent among males (7.0% vs. 2.5% for females).

- Males also have considerably higher prevalence rates on most other illicit drugs. The annual prevalence (Table 4) for inhalants, hallucinogens, heroin, cocaine, methaqualone, opiates other than heroin, and the specific drugs PCP, LSD, and the nitrites tend to be one and one-half to two and one-half times as high among males as among females. Males also report

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TABLE 3

Lifetime Prevalence of Use of Sixteen Types of Drugs by Subgroups, Class of 1984

	Marijuana	Inhalants [a]	Amyl/Butyl Nitrites	Hallucinogens [a]	LSD	PCP	Cocaine	Heroin	Other Opiates	Stimulants [b] (adjusted)	Sedatives	Barbiturates	Methaqualone	Tranquilizers	Alcohol	Cigarettes
All seniors	54.9	14.4	8.1	10.7	8.0	5.0	16.1	1.3	9.7	27.9	13.3	9.9	8.3	12.4	92.6	69.7
Sex:																
Male	57.9	17.8	10.2	12.2	9.6	6.8	18.7	1.5	10.9	26.0	14.0	10.6	9.1	11.9	92.9	67.1
Female	51.3	10.9	5.4	8.5	6.9	3.1	12.8	1.0	8.4	29.3	12.9	8.9	7.0	12.5	92.2	71.5
College Plans:																
None or under 4 yrs	60.7	16.8	9.3	13.2	10.2	6.6	18.6	1.5	11.5	34.5	16.6	12.5	10.5	14.7	93.3	76.3
Complete 4 yrs	49.7	12.6	7.0	7.8	5.6	3.7	13.3	1.0	8.2	22.7	10.2	7.6	6.1	10.6	92.3	64.7
Region:																
Northeast	64.0	16.3	8.3	16.8	10.9	6.0	24.8	1.6	12.3	29.8	15.4	11.2	9.6	13.7	95.3	71.9
North Central	52.3	14.2	8.8	10.1	8.0	4.4	9.4	1.3	8.9	30.7	12.2	9.6	7.6	11.1	94.0	72.6
South	49.1	12.9	6.4	7.0	6.0	4.4	11.5	1.1	8.0	24.4	13.8	10.0	8.9	13.1	90.6	68.2
West	59.8	15.4	9.8	11.3	8.7	5.8	25.3	1.1	11.0	27.9	11.8	8.9	6.6	11.4	90.7	63.3
Population Density:																
Large SMSA	59.3	13.8	8.3	14.0	8.8	4.8	21.9	1.4	10.2	27.6	12.9	9.6	8.0	11.2	93.2	69.5
Other SMSA	56.0	14.4	9.1	10.5	8.5	4.7	15.4	1.0	9.4	27.1	13.4	9.6	8.5	12.4	92.1	68.0
Non-SMSA	49.8	14.9	6.6	8.1	6.8	5.4	12.2	1.5	9.5	29.1	13.5	10.7	8.1	13.3	92.7	72.1

[a] Unadjusted for known underreporting of certain drugs. See page 18.

[b] Adjusted for overreporting of the non-prescription stimulants.

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somewhat higher annual rates of use than females for tranquilizers and barbiturates. Further, males account for an even greater share of the frequent or heavy users of these various classes of drugs.

- Only in the case of stimulants do the annual prevalence rates (as well as frequent usage patterns) for females exceed those for males—and then only by small amounts. Annual prevalence for stimulants (adjusted) is 18.2% for females vs. 16.8% for males. This reversal in sex differences is due to the fact that substantially more females than males use stimulants for purposes of weight loss—an instrumental, as opposed to social recreational, use of the drug.

- Despite the fact that all but one of the individual classes of illicit drugs are used more by males than by females, the proportions of both sexes who report using some illicit drug other than marijuana (adjusted for overreporting of amphetamines) during the last year are not substantially different (28% for males vs. 27% for females; see Figure F). Even if amphetamine use is excluded from the comparisons altogether, fairly comparable proportions of both sexes (22% for males vs. 18% for females) report using some illicit drug other than marijuana during the year. If one thinks of going beyond marijuana as an important threshold point in the sequence of illicit drug use, then nearly equal proportions of both sexes were willing to cross that threshold at least once during the year. However, on the average the female "users" take fewer types of drugs and use them with less frequency than their male counterparts.

- Frequent use of alcohol tends to be disproportionately concentrated among males. Daily use, for example, is reported by 6.6% of the males but by only 2.7% of the females. Also, males are more likely than females to drink large quantities of alcohol in a single sitting (i.e., 48% of males report taking five or more drinks in a row in the prior two weeks, vs. 30% for females).

- Finally, for cigarettes, there does now exist a sex difference—this time with females showing the higher rate of use. For example, at the level of smoking a half-a-pack or more daily: 12.8% of the females smoke this heavily versus 11.0% of the males. There is a larger difference in proportions reporting any use during the past month: 32% of the females versus 26% of the males.

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TABLE 4

Annual Prevalence of Use of Sixteen Types of Drugs by Subgroups, Class of 1984

	Marijuana	Inhalants [a]	Amyl/Butyl Nitrites	Hallucinogens [a]	LSD	PCP	Cocaine	Heroin	Other Opiates	Stimulants [b] (adjusted)	Sedatives	Barbiturates	Methaqualone	Tranquilizers	Alcohol	Cigarettes [c]
All seniors	40.0	3.1	4.0	6.5	4.7	2.3	11.6	0.9	3.2	17.7	6.6	4.9	3.8	6.1	86.0	--
Sex:																
Male	43.2	4.3	5.4	7.9	5.8	3.1	13.4	0.7	4.2	16.8	7.6	5.5	4.7	6.3	87.2	--
Female	36.0	3.8	2.5	4.7	3.1	1.5	9.1	0.9	4.2	18.2	5.3	4.0	2.7	5.8	84.7	--
College Plans:																
None or under 4 yrs	44.2	5.8	4.9	8.3	6.1	2.7	13.2	0.6	4.1	22.2	8.5	6.2	5.3	7.4	86.8	--
Complete 4 yrs	35.9	4.7	3.4	4.7	3.1	1.9	9.7	0.4	4.3	14.2	4.8	3.7	2.6	5.2	85.3	--
Region:																
Northeast	49.6	6.1	4.1	11.3	7.0	2.3	19.3	0.6	6.7	19.0	7.2	5.1	4.4	6.8	91.3	--
North Central	36.4	3.0	5.8	6.0	4.4	1.9	5.8	0.6	4.8	20.3	6.5	4.9	3.8	5.6	87.5	--
South	33.6	4.6	3.0	3.9	3.5	2.3	7.7	0.5	4.5	13.1	7.2	5.2	4.3	6.9	82.4	--
West	43.2	3.3	2.8	7.2	4.3	2.9	19.3	0.4	3.3	16.9	5.1	4.2	2.1	4.9	84.2	--
Population Density:																
Large SMSA	44.2	5.3	2.9	8.8	6.7	2.1	16.8	0.6	5.2	17.7	6.0	4.4	3.4	5.4	87.0	--
Other SMSA	41.0	3.0	4.7	6.3	4.9	2.2	11.0	0.4	3.1	17.1	6.7	4.9	3.8	6.1	85.3	--
Non-SMSA	35.3	3.2	4.2	5.2	4.2	2.6	8.3	0.7	3.2	18.3	7.1	5.3	4.0	6.8	85.9	--

[a] Unadjusted for known underreporting of certain drugs. See page 18.

[b] Adjusted for overreporting of the non-prescription stimulants.

[c] Annual prevalence is not available.

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Differences Related to College Plans

- Overall, seniors who are expecting to complete four years of college (referred to here as the "college-bound") have lower rates of illicit drug use than those not expecting to do so (see Tables 3 through 6 and Figure G).

- Annual marijuana use is reported by 36% of the college-bound vs. 44% of the noncollege-bound.

- There is a substantial difference in the proportion of these two groups using any illicit drug(s) other than marijuana (adjusted). In 1984, 23% of the college-bound reported any such behavior in the prior year vs. 33% of the noncollege-bound. (If amphetamine use is excluded from these "other illicit drugs," the figures are 17% vs. 23%, respectively.)

- For most of the specific illicit drugs other than marijuana, annual prevalence is higher—sometimes substantially higher—among the noncollege-bound, as Table 4 illustrates. In fact, current (30-day) prevalence is about twice as high among the noncollege-bound than among the college-bound for several drugs, including hallucinogens (LSD in particular), stimulants (adjusted), sedatives (methaqualone in particular), and tranquilizers.

- Frequent use of many of these illicit drugs shows even larger contrasts related to college plans (see Table 6). Daily marijuana use, for example, is more than twice as high among those not planning four years of college (6.9%) as among the college-bound (2.9%).

- Frequent alcohol use is also more prevalent among the noncollege-bound. For example, drinking on a daily basis is reported by 6.0% of the noncollege-bound vs. only 3.6% of the college-bound. On the other hand, there are practically no differences between these groups in lifetime, annual, or monthly prevalence.

- By far the largest difference in substance use between the college and noncollege-bound involves cigarette smoking. There is a dramatic difference here, with only 6.5% of the college-bound smoking a half-a-pack or more daily compared with 19.6% of the noncollege-bound.

Regional Differences

- There are now some fair-sized regional differences in rates of illicit drug use among high school seniors. The highest (adjusted) rate is in the Northeast, where 55%

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TABLE 5

Thirty-Day Prevalence of Use of Sixteen Types of Drugs by Subgroups, Class of 1984

	Marijuana	Inhalants [a]	Amyl/Butyl Nitrites	Hallucinogens [a]	LSD	PCP	Cocaine	Heroin	Other Opiates	Stimulants [b] (adjusted)	Sedatives	Barbiturates	Methaqualone	Tranquilizers	Alcohol	Cigarettes
All seniors	23.2	1.9	1.4	2.6	1.5	1.0	5.8	0.3	1.8	8.3	2.3	1.7	1.1	2.1	67.2	29.3
Sex:																
Male	28.2	2.5	2.1	3.6	2.2	1.5	7.0	0.5	2.2	7.8	2.6	1.9	1.4	2.3	71.4	25.9
Female	21.1	1.2	0.5	1.4	0.7	0.5	4.4	0.1	1.4	8.6	1.7	1.3	0.7	1.7	62.8	31.9
College Plans:																
None or under 4 yrs	29.2	2.1	1.8	3.3	2.0	1.1	6.9	0.3	2.2	11.0	2.9	2.0	1.6	2.8	69.0	37.9
Complete 4 yrs	20.9	1.7	1.2	1.8	1.0	1.0	4.6	0.3	1.4	6.2	1.6	1.3	0.7	1.5	65.7	22.7
Region:																
Northeast	33.3	2.1	0.7	5.1	2.6	0.8	11.0	0.5	2.0	8.5	2.2	1.7	1.0	2.3	73.6	33.5
North Central	22.1	1.9	2.6	2.3	1.4	0.7	2.3	0.3	1.8	10.1	2.6	1.9	1.3	2.2	70.6	31.4
South	22.4	1.7	1.0	1.7	1.3	1.3	4.0	0.3	1.7	7.2	2.6	1.9	1.4	2.2	62.1	28.6
West	25.9	1.8	1.1	1.9	0.9	1.4	9.0	0.1	1.8	7.4	1.5	1.2	0.4	1.3	63.6	22.9
Population Density:																
Large SMSA	28.5	1.9	1.3	3.8	1.7	0.8	9.5	0.4	1.7	8.6	2.1	1.6	1.0	1.9	66.6	31.3
Other SMSA	25.1	1.8	1.4	2.4	1.5	0.8	5.0	0.2	1.6	8.0	2.0	1.4	0.9	1.9	66.2	28.2
Non-SMSA	22.5	1.9	1.6	1.9	1.4	1.5	4.0	0.4	2.1	8.5	2.9	2.2	1.6	2.4	69.0	29.3

[a] Unadjusted for known underreporting of certain drugs. See page 18.

[b] Adjusted for overreporting of the non-prescription stimulants.

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say they have used a drug illicitly in the past year, followed by the West with 49%, then the North Central with 42%, followed by the South with only 41% having used any illicit drug (see Figure H).

- There are comparable regional variations in terms of the percent using some illicit drug other than marijuana (adjusted) in the past year: 34% in the Northeast, 31% in the West, 26% in the North Central, and 24% in the South.

- The West ranks relatively high in the use of illicit drugs other than marijuana, due in part to its high level of cocaine use. In fact, the regional differences in cocaine have been the largest observed. For example, annual prevalence is more than three times as high in the Northeast (19.5%) and West (19.3%) as in the North Central (5.8%). The South also has a relatively low prevalence rate (7.7%).

- Other specific illicit substances vary in the extent to which they show regional variation, as Table 4 illustrates for the annual prevalence measure.

  Like cocaine, marijuana use is highest in the Northeast (at 50%) and West (43%) and lowest in the South (36%) and North Central (36%). Hallucinogen use, including LSD, tends to be higher in the Northeast and lower in the South. The South is also slightly lower than the other three regions in the use of stimulants and opiates other than heroin. Sedative use on the other hand—particularly methqualone use—is lowest in the West, and highest in the South and Northeast.

  There is relatively little variation among the regions, however, in the use of inhalants, PCP, heroin, and tranquilizers.

- Alcohol use tends to be somewhat lower in the South and West than it is in the Northeast and North Central—in particular, the rate of occasional heavy drinking.

- One of the largest regional differences occurs for regular cigarette smoking. Smoking half-a-pack or more a day occurs most often in the Northeast (17% of seniors), with the North Central (13%) and the South (11%) somewhat lower, and the West lower still (7%).

Differences Related to Population Density

- Three levels of population density (or urbanicity) have been distinguished for analytical purposes: (1) Large SMSA's, which are the twelve largest Standard Metro-

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TABLE 6

Thirty-Day Prevalence of Daily Use of Marijuana, Alcohol, and Cigarettes by Subgroups, Class of 1984

	N (Approx)	Percent who used daily in last 30 days			
				Cigarettes	
		Marijuana	Alcohol	One or more	Half-pack or more
All Seniors	15900	5.0	4.8	18.7	12.3
Sex					
Male	7600	7.0	6.6	16.0	11.0
Female	7800	2.5	2.7	20.5	12.8
College Plans					
None or under 4 yrs	5900	6.9	6.0	27.2	19.6
Complete 4 yrs	8900	2.9	3.6	11.9	6.5
Region					
Northeast	3200	7.5	6.5	23.6	17.4
North Central	4300	4.9	4.3	20.4	13.0
South	5300	4.1	5.3	17.7	11.3
West	2900	4.7	2.8	12.9	7.4
Population Density					
Large SMSA	4100	5.7	5.1	21.3	14.8
Other SMSA	6900	5.0	4.5	17.4	11.4
Non-SMSA	4900	4.9	5.1	18.2	11.5

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SMSA's, which are the remaining Standard Metropolitan Statistical Areas; and (3) Non-SMSA's, which are sampling areas not designated as metropolitan.

- Overall illicit drug use is highest in the largest metropolitan areas (50% annual prevalence, adjusted), slightly lower in the other metropolitan areas (47%), and lowest in the nonmetropolitan areas (41%) (see Figure 1).

- The same ranking occurs for the use of illicit drugs other than marijuana: 31% annual prevalence (adjusted) in the largest cities, 28% in the other cities, and 26% in the nonmetropolitan areas. (With amphetamine use excluded, these numbers drop—to 24%, 20%, and 17%, respectively—but still retain the same rank order.)

- For specific drugs, the largest absolute difference associated with urbanicity occurs for marijuana, which has an annual prevalence of 44% in the large cities but only 35% in the nonmetropolitan areas (Table 4).

- However, by far the greatest proportional difference occurs for cocaine, where there is more than twice as much use in the large metropolitan areas (17%) compared to the nonmetropolitan areas (8%).

- There has been some tendency for a few other drugs to be associated positively with urbanicity; however, the relationships have not been strong nor always consistent from one year to another.

RECENT TRENDS

This section summarizes trends in drug use, comparing the ten graduating classes of 1975 through 1984. As in the previous section, the outcomes discussed include measures of lifetime use, use during the past year, use during the past month, and daily use. Also, trends are compared among the key subgroups.

Trends in Prevalence 1975-1984: All Seniors

- The years 1978 and 1979 marked the crest of a long and dramatic rise in marijuana use among American high school students. As Tables 7 through 10 illustrate, annual and 30-day prevalence of marijuana use hardly changed at all between 1978 and 1979, following a steady rise in the preceding years. In 1980 both statistics dropped for the first time, and they have continued to decline in the four years since. Both are now 11% to 12% below their all time highs. Lifetime prevalence, which had remained unchanged in 1980, finally began to drop in '81, though more gradually. Even today it is only 6% below its all time high. As we discuss later, there have been some significant changes in the attitudes and beliefs that young people hold in relation to marijuana. As we have been predicting for several years, these changes suggest that the downward shift in marijuana use is likely to continue.

- Of greater importance is the even sharper downward trend which has been continuing to occur for daily marijuana use. Between 1975 and 1978 there was an almost two-fold increase in daily use. The proportion reporting daily use in the class of 1975 (6.0%) came as a surprise to many; and then that proportion rose rapidly, so that by 1978 one in every nine high school seniors (10.7%) indicated that he or she used the drug on a daily or nearly daily basis (defined as use on 20 or more occasions in the last 30 days). In 1979 we reported that this rapid and troublesome increase had come to a halt, with a 0.4% drop occurring that year. By 1984 the daily usage rate has dropped to 5.0%—about one in every twenty seniors—actually below the 6% level we first observed in 1975. As later sections of this report document, much of this reversal appears to be due to a continuing increase in concerns about possible adverse effects from regular use, and a growing perception that peers would disapprove of regular marijuana use.

- Until 1978, the proportion of seniors involved in any illicit drug use had increased steadily, primarily because of the increase in marijuana use. About 54%

TABLE 7

Trends in Lifetime Prevalence of Sixteen Types of Drugs

	Percent ever used										
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	83-84 change
Approx. N =	(19400)	(19400)	(17100)	(17800)	(15900)	(15900)	(15900)	(17900)	(16300)	(15900)	
Marijuana/Hashish	47.3	52.8	56.9	59.2	60.4	60.3	59.3	58.7	57.0	56.9	-2.1
Inhalants[a]	NA	12.3	11.1	12.0	12.7	11.9	12.1	12.8	13.6	14.4	+0.8
Inhalants Adjusted[b]	NA	NA	NA	NA	18.7	17.6	17.4	18.0	18.8	19.0	+0.2
Amyl & Butyl Nitrites[c]	NA	NA	NA	NA	11.1	11.1	10.1	9.8	8.9	8.1	-0.7
Hallucinogens	16.1	15.1	13.9	14.3	14.1	13.3	13.3	12.3	11.9	11.7	-0.2
Hallucinogens Adjusted[b]	NA	NA	NA	NA	18.8	18.7	18.7	18.0	16.7	15.3	-1.4
LSD[a]	11.3	11.0	9.8	9.7	9.3	9.3	9.8	9.6	8.9	8.0	-0.9
PCP[d]	NA	NA	NA	NA	12.8	9.6	7.8	6.0	5.6	5.0	-0.6
Cocaine	9.0	9.7	10.8	12.9	13.4	15.7	16.5	16.0	16.2	16.1	-0.1
Heroin	2.2	1.8	1.8	1.6	1.5	1.1	1.1	1.2	1.2	1.3	+0.1
Other opiates[e]	9.0	9.6	10.3	9.9	10.1	9.8	10.1	9.6	9.4	9.7	+0.3
Stimulants[e]	22.3	22.6	23.0	22.9	24.2	26.4	32.2	33.6	33.4	NA	NA
Stimulants Adjusted[e,f]	NA	NA	NA	NA	NA	NA	NA	27.8	28.8	27.8	+1.0
Sedatives[e]	18.2	17.7	17.4	16.0	16.8	16.9	16.2	15.2	14.4	13.3	-1.1
Barbiturates[e]	16.9	16.2	15.6	13.7	13.8	13.3	13.3	10.3	9.9	9.4	-0.5
Methaqualone[e]	8.1	7.8	8.3	7.9	8.3	9.3	10.6	10.7	10.1	8.3	-1.8**
Tranquilizers[e]	17.0	16.8	16.0	17.0	16.3	15.2	14.7	14.0	13.3	12.4	-0.9
Alcohol	90.4	91.9	92.5	93.1	93.0	93.2	92.6	92.8	92.6	92.6	0.0
Cigarettes	73.6	75.4	75.7	75.3	74.0	71.2	71.2	70.1	70.6	69.7	-0.9

NOTES: Level of significance of difference between the two most recent classes:
* = .05, ** = .01, *** = .001.

NA indicates data not available.

[a] Data based on four questionnaire forms. N is four-fifths of N indicated.

[b] Adjusted for underreporting of amyl and butyl nitrites (see text).

[c] Data based on a single questionnaire form. N is one-fifth of N indicated.

[d] Adjusted for underreporting of PCP (see text).

[e] Only drug use which was not under a doctor's orders is included here.

[f] Adjusted for overreporting of the non-prescription stimulants.

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TABLE 8

Trends in Annual Prevalence of Sixteen Types of Drugs

	Percent who used in last twelve months										
	Class of 1973	Class of 1974	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	'83-'84 Change?
Approx. N =	(9400)	(15400)	(17100)	(17800)	(15500)	(15900)	(17900)	(17700)	(16300)	(15900)	
Marijuana/Hashish	47.0	44.3	47.6	50.2	50.8	48.8	46.1	44.3	42.3	40.5	-2.3t
Inhalants[a]	NA	3.0	3.7	4.1	5.4	6.6	6.1	4.3	4.3	3.1	+0.0s
Inhalants Adjusted[b]	NA	NA	NA	NA	8.2	7.8	8.0	8.6	8.7	7.9	+1.2#
Amyl & Butyl Nitrites[c]	NA	NA	NA	NA	4.5	5.7	5.7	5.6	5.6	4.0	+0.4
Hallucinogens	11.2	9.4	8.8	8.6	9.9	9.5	9.0	8.1	7.3	6.5	-0.8
Hallucinogens Adjusted[d]	NA	NA	NA	NA	12.8	10.6	10.1	9.3	8.3	7.9	-1.4s
LSD	7.2	6.9	5.5	6.1	6.6	6.5	6.3	6.1	5.4	4.7	-0.7
PCP[e]	NA	NA	NA	NA	7.2	4.4	3.2	2.2	2.6	2.3	-0.3
Cocaine	5.6	6.0	7.2	9.0	12.0	12.5	12.4	11.5	11.6	11.8	+0.2
Heroin	1.0	0.8	0.8	0.8	0.5	0.5	0.5	0.6	0.6	0.5	-0.1
Other opiates[a]	5.7	5.7	6.6	6.0	6.2	6.3	5.9	5.3	5.1	5.2	+0.1
Stimulants[a]	16.2	15.8	16.3	17.1	18.3	20.8	26.0	26.1	24.6	NA	NA
Stimulants Adjusted[a,f]	NA	NA	NA	NA	NA	NA	NA	20.3	17.8	17.7	-0.2
Sedatives[a]	11.7	10.7	10.8	9.9	9.9	10.3	10.7	9.1	7.9	6.6	-1.3s
Barbiturates[a]	10.7	9.6	9.3	8.1	7.5	6.8	6.6	5.5	5.2	4.9	-0.3
Methaqualone[a]	5.1	4.7	5.2	4.9	5.9	7.2	7.6	6.8	5.9	3.8	-1.9###
Tranquilizers[a]	10.6	10.3	10.8	9.9	9.6	8.7	8.0	7.0	6.9	6.1	-0.8
Alcohol	84.8	85.7	87.0	87.7	88.1	87.9	87.0	86.8	87.3	86.0	-1.3
Cigarettes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES: Level of significance of difference between the two most recent classes:
s = .05, # = .01, ### = .001

NA indicates data not available.

[a]Data based on four questionnaire forms. N is four-fifths of N indicated.

[b]Adjusted for underreporting of amyl and butyl nitrites (see text).

[c]Data based on a single questionnaire form. N is one-fifth of N indicated.

[d]Adjusted for underreporting of PCP (see text).

[e]Only drug use which was not under a doctor's orders is included here.

[f]Adjusted for overreporting of the non-prescription stimulants.

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TABLE 9

Trends in Thirty-Day Prevalence of Sixteen Types of Drugs

	Percent who used in last thirty days										
	Class of 1973	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	'83-'84 change
Approx. N =	(9400)	(13400)	(17100)	(17800)	(15300)	(15900)	(17500)	(17700)	(16300)	(15900)	
Marijuana/Hashish	27.1	32.2	33.4	37.1	36.3	33.7	31.6	28.3	27.0	25.2	-1.8
Inhalants[A]	NA	0.9	1.3	1.3	1.7	1.4	1.5	1.5	1.7	1.9	+0.2
Inhalants Adjusted[B]	NA	NA	NA	NA	3.1	2.7	2.3	2.8	2.7	2.7	0.0
Amyl & Butyl Nitrites[C]	NA	NA	NA	NA	2.4	1.8	1.4	1.1	1.4	1.4	0.0
Hallucinogens	4.7	5.8	6.1	5.9	6.0	5.7	5.7	5.4	5.8	5.6	-0.2
Hallucinogens Adjusted[D]	NA	NA	NA	NA	8.3	6.6	6.4	6.3	6.8	6.6	-0.2
LSD	2.3	1.9	2.1	2.1	2.4	2.3	2.5	2.4	1.9	1.5	-0.4
PCP[C]	NA	NA	NA	NA	2.4	1.4	1.4	1.2	1.3	1.0	-0.3
Cocaine	4.9	7.0	7.9	8.8	9.7	9.2	9.8	9.0	8.9	9.8	+0.9s
Heroin	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	+0.1
Other opiates[E]	2.1	2.0	2.8	2.1	2.4	2.4	2.1	1.8	1.8	1.8	0.0
Stimulants[E]	8.3	7.7	8.8	8.7	9.9	12.1	13.8	13.7	12.4	NA	NA
Stimulants Adjusted[E,I]	NA	NA	NA	NA	NA	NA	NA	10.7	8.8	8.3	-0.6
Sedatives[E]	5.4	4.3	5.1	4.2	4.4	4.8	4.6	3.9	3.0	2.3	-0.7ss
Barbiturates[E]	4.7	3.9	4.3	3.2	3.2	2.9	2.6	2.0	2.1	1.7	-0.4
Methaqualone[E]	2.1	1.6	2.3	1.9	2.3	3.3	3.1	2.9	1.8	1.1	-0.7ss
Tranquilizers[E]	4.1	4.0	4.6	3.4	3.7	3.1	2.7	2.4	2.3	2.1	-0.4
Alcohol	68.2	68.1	71.2	72.1	71.8	72.5	70.7	69.7	69.4	67.2	-2.2
Cigarettes	36.7	38.8	38.4	36.7	36.4	30.5	29.4	30.0	30.3	29.3	-1.0

NOTES: Level of significance of difference between the two most recent classes:
s = .05, ss = .01, sss = .001.

NA indicates data not available.

[A]Data based on four questionnaire forms. N is four-fifths of N indicated.

[B]Adjusted for underreporting of amyl and butyl nitrites (see text).

[C]Data based on a single questionnaire form. N is one-fifth of N indicated.

[D]Adjusted for underreporting of PCP (see text).

[E]Only drug use which was not under a doctor's orders is included here.

[I]Adjusted for overreporting of the non-prescription stimulants.

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TABLE 10

Trends in Thirty-Day Prevalence of Daily Use of Sixteen Types of Drugs

	Percent who used daily in last thirty days										
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	'83-'84 Change
Approx. N =	(16400)	(17400)	(17100)	(17800)	(15900)	(15900)	(17900)	(17700)	(16300)	(17900)	
Marijuana/Hashish	6.0	5.2	9.1	10.7	10.5	9.1	7.0	6.3	5.3	5.0	-0.3
Inhalants[A]	NA	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Inhalants Adjusted[B]	NA	NA	NA	NA	0.2	0.2	0.2	0.2	0.2	0.2	0.0
Amyl & Butyl Nitrites[C]	NA	NA	NA	NA	0.0	0.1	0.1	0.0	0.2	0.1	-0.1
Hallucinogens	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Hallucinogens Adjusted[D]	NA	NA	NA	NA	0.2	0.2	0.2	0.2	0.2	0.2	0.0
LSD	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0
PCP[C]	NA	NA	NA	NA	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Cocaine	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.0
Heroin	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1
Other opiates[E]	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Stimulants[E]	0.3	0.4	0.3	0.3	0.6	0.7	1.2	1.1	1.1	NA	NA
Stimulants Adjusted[E,F]	NA	NA	NA	NA	NA	NA	NA	0.7	0.8	0.6	-0.2
Sedatives[E]	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	-0.1
Barbiturates[E]	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.0	-0.1
Methaqualone[E]	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
Tranquilizers[E]	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Alcohol	5.7	5.6	6.1	5.7	6.3	6.0	6.0	5.7	5.3	4.8	-0.7
Cigarettes	26.9	28.8	28.8	27.5	25.4	21.3	20.3	21.1	21.2	18.7	-2.5ss

NOTES: Level of significance of difference between the two most recent classes:
s = .05, ss = .01, sss = .001.

NA indicates data not available.

[A] Data based on four questionnaire forms. N is four-fifths of N indicated.

[B] Adjusted for underreporting of amyl and butyl nitrites (see text).

[C] Data based on a single questionnaire form. N is one-fifth of N indicated.

[D] Adjusted for underreporting of PCP (see text).

[E] Only drug use which was not under a doctor's orders is included here.

[F] Adjusted for overreporting of the non-prescription stimulants.

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of the classes of 1978 and 1979 reported having tried at least one illicit drug during the last year, up from 45% in the class of 1975. Since 1979, however, the proportion reporting using any illicit drug during the prior year has dropped by 1 or 2% annually and now stands at 46% (revised version). This reversal in the proportion of students having any involvement with illicit drugs appears to be due primarily to the change in marijuana use.

- As part one of Figure C and Table 11 illustrate, between 1976 and 1982 there had been a very gradual, steady increase in the proportion who have ever used some illicit drug other than marijuana. The proportion going beyond marijuana in their lifetime had risen from 35% to 45% between 1976 and 1982; in 1983 it dropped back to 44% and in 1984 the revised statistic remained stable. The annual prevalence of such behaviors (part two of Figure C), which had risen from 25% to 34% in 1981, leveled in 1982, and then dropped back slightly in 1983 and 1984. But the current (or 30 day) prevalence figures actually began to drop a year earlier—in 1982—and have shown the largest proportional drop (as may be seen in part three of Figure C and in Table 11).

- Most of the earlier rise in other illicit drug use appeared to be due to the increasing popularity of cocaine with this age group between 1976 and 1979, and then due to the increasing use of stimulants between 1979 and 1982. However, as stated earlier, we believe that this upward shift had been exaggerated because some respondents included instances of using over-the-counter stimulants in their reports of amphetamine use. (See discussion at the end of the introductory section.) A rather different picture of what trends have been occurring in the proportions using illicit drugs other than marijuana emerges when self-reported amphetamine use is excluded from the calculations altogether. (This obviously understates the percent using illicits other than marijuana in any given year, but it might yield a more accurate picture of trends in proportions up through 1982, when new questions were introduced to deal with the problem directly.) Figure C (and other figures to follow) have been annotated with small markings (➡) next to each year's bar, showing where the shaded area would stop if amphetamine use were excluded entirely. The cross-time trend in these markings shows that the proportion going beyond marijuana to illicits other than amphetamines during the prior year was almost constant between 1975 and 1981. However, this figure began to drop gradually from 24% in 1981 to 20% in 1984.

TABLE 11

Trends in Lifetime, Annual, and Thirty-Day Prevalence in an Index of Illicit Drug Use

(Based on Original and Revised Amphetamine Questions)[a]

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	81-84 Change
Approx. N =	(9400)	(15500)	(17200)	(17800)	(15500)	(17900)	(17500)	(17750)	(16300)	(17900)	
Percent reporting use in lifetime											
Marijuana Only	19.0	22.9	25.8	27.6	27.7	28.7	22.8	25.8	19.7	--	--
Revised Version	--	--	--	--	--	--	--	23.3	22.5	21.3	-1.2
Any Illicit Drug Other Than Marijuana[b]	16.2	15.4	15.8	16.5	17.4	18.7	42.8	43.0	44.4	--	--
Revised Version	--	--	--	--	--	--	--	41.1	40.4	40.3	-0.1
Total Any Illicit Drug Use	33.2	36.3	41.6	44.1	45.1	45.4	63.6	65.8	64.1	--	--
Revised Version	--	--	--	--	--	--	--	64.4	62.9	61.6	-1.3
Percent reporting use in the last twelve months											
Marijuana Only	13.8	22.7	25.1	26.7	26.0	22.7	15.1	17.0	16.6	--	--
Revised Version	--	--	--	--	--	--	--	16.3	16.0	17.6	-1.2
Any Illicit Drug Other Than Marijuana[b]	26.2	25.4	26.0	27.1	28.2	30.4	34.1	33.8	32.3	--	--
Revised Version	--	--	--	--	--	--	--	30.1	29.4	28.0	-0.4
Total Any Illicit Drug Use	43.0	48.1	51.1	53.8	54.2	53.1	52.1	50.8	49.1	--	--
Revised Version	--	--	--	--	--	--	--	46.4	47.4	45.6	-1.6
Percent reporting use in last 30 days											
Marijuana Only	13.1	20.1	22.4	23.8	22.2	18.8	13.2	14.5	14.0	--	--
Revised Version	--	--	--	--	--	--	--	13.5	13.2	14.1	-1.8
Any Illicit Drug Other Than Marijuana[b]	13.4	13.9	15.2	15.1	16.8	18.4	21.7	19.2	18.4	--	--
Revised Version	--	--	--	--	--	--	--	17.0	15.4	15.1	-0.3
Total Any Illicit Drug Use	30.7	34.2	37.6	38.9	38.9	37.2	34.9	33.5	32.4	--	--
Revised Version	--	--	--	--	--	--	--	32.9	30.5	29.2	-1.3

NOTES: Level of significance of difference between the two most recent classes: .5 = .05, .1 = .01, .5 = .001.

[a]Revised questions about stimulant use were introduced in 1982 to exclude more completely the inappropriate reporting of non-prescription stimulants.

[b]Use of "other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, sedatives, or tranquilizers not under a doctor's orders.

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- Thus, with stimulants excluded from the calculations entirely, we are seeing a gradual drop in the proportion of seniors using illicit drugs other than marijuana, following a considerable period of virtually level use. With stimulants (including the incorrectly reported ones) included in the definition, we also see a downturn in recent years, but following a period of considerable increase. Finally, using the corrected stimulant statistics for 1982 and thereafter (marked with the symbol (◄) in Figure C), we still see the downturn in recent years, but it follows a period of what we deduce to have been a modest increase in use from the mid-seventies to 1982.

- Although the overall proportion using illicit drugs other than marijuana has changed fairly gradually during recent years, more varied and turbulent changes have been occurring for specific drugs within the class. (See Tables 7, 8, and 9 for trends in lifetime, annual, and monthly prevalence figures for each class of drugs.)

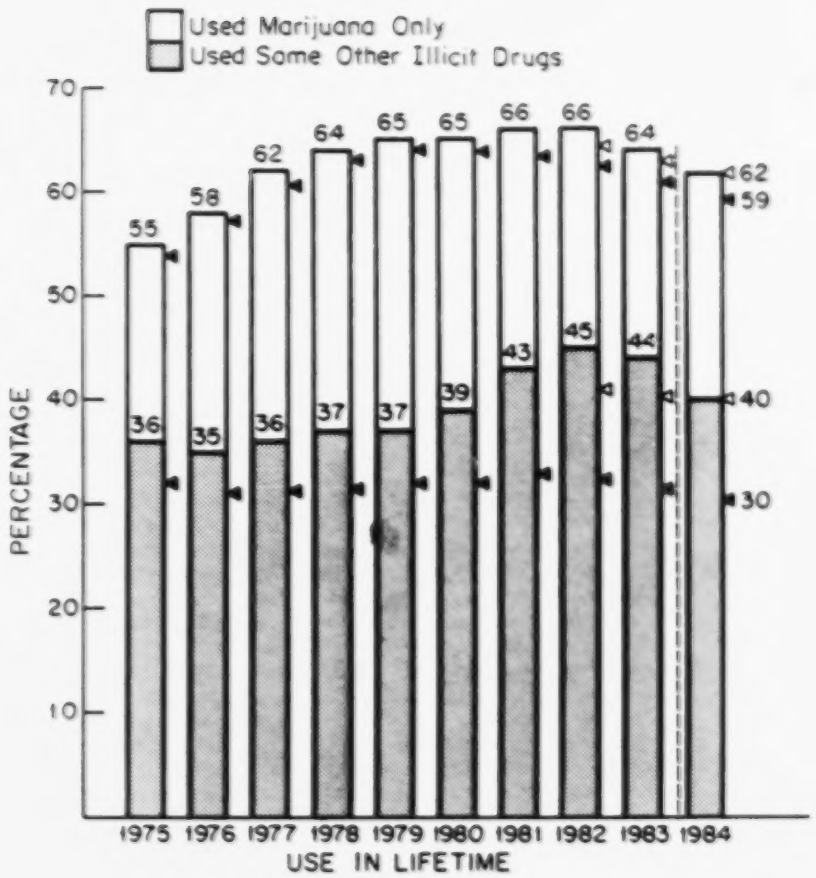
- From 1976 to 1979 cocaine exhibited a dramatic and accelerating increase in popularity, with annual prevalence going from 6% in the class of 1976 to 12% in the class of 1979—a two-fold increase in just three years. Little further increase occurred in 1980 and 1981. Since 1981, however, we judge there to have been little or no change in any of the prevalence statistics for the nation as a whole. (Some possible regional changes will be discussed below.) Other measures, dealing with friends' use and personal exposure to use, suggest this to be the case, as well.

- Like cocaine use, inhalant use had been rising steadily in the mid 1970's, though more slowly and from a lower overall level. Annual prevalence (in the unadjusted version) rose from 3.0% in 1976 and reached a peak of 5.4% in 1979. Then, between 1979 and 1981, there was an overall decline—in part due to a substantial drop in the use of the amyl and butyl nitrites, for which annual prevalence declined from 6.5% in 1979 to 3.7% in 1981. However, while nitrite use has not increased appreciably since 1981, total inhalant use has actually risen some since then, with annual use for inhalants adjusted increasing from 6.0% in 1981 to 7.9% in 1984.

- Stimulant use, which had remained relatively unchanged between 1975 and 1978, began to show evidence of a gradual increase in use in 1979, with even greater increases to occur in 1980 and 1981. Between 1976 and 1981, reported annual prevalence rose by a full 10.2% (from 15.8% in 1976 to 26.0% in 1981); and daily use tripled, from 0.4% in 1976 to 1.2%

FIGURE C

Trends in Lifetime Prevalence of an Illicit Drug Use Index
All Seniors



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

◁ indicates the percentage which results if all stimulants are excluded from the definition of "illicit drugs." ◁ shows the percentage which results if only non-prescription stimulants are excluded.

The dashed vertical line indicates that after 1983 the shaded and open bars are defined by using the revised amphetamine questions.

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in 1981. As stated earlier, we think these increases were exaggerated—perhaps sharply exaggerated—by respondents in 1980 and 1981 surveys in particular including non-amphetamine, over-the-counter diet pills (as well as "look-alike" and "sound-alike" pills) in their answers. In 1982, we added new versions of the questions on amphetamine use, which were more explicit in instructing respondents not to include such non-prescription pills. (These were added to only three of the five forms of the questionnaire being used; the amphetamine questions were left unchanged in the other two forms until 1984.) As a result, tables 7 through 11 give two estimates for amphetamines: one is based on the unchanged questions, which provides comparable data across time for longer-term trend estimates; the second (adjusted) estimate, based on the revised questions, provides our best assessments of current prevalence and recent trends in true amphetamine use.*

- As can be seen in 1982 and 1983, the two years for which both adjusted and unadjusted statistics are available, the unadjusted showed a considerable amount of overreporting. Both types of statistics, however, suggest that a downturn in the current use of stimulants began to occur in 1982 and has continued since. Still, in the class of 1984 more than a quarter of all seniors (27.9%) have tried amphetamines (adjusted).

- For sedatives the sustained, gradual decline between 1975 and 1979 halted in 1980 and 1981. For example, annual prevalence, which dropped steadily from 11.7% in 1975 to 9.9% in 1979, increased slightly to 10.5% by 1981. In 1982, though, the longer-term decline resumed again and annual prevalence has now fallen to 6.6%. In sum, annual sedative use has dropped by nearly one-half since the study began in 1975. But, the overall trend lines for sedatives mask differential trends occurring for the two components of the measure (see Figure E). Barbiturate use has declined rather steadily since 1975, and now stands at below half its 1975 level in terms of annual prevalence (i.e., at 4.9% vs. 10.7% in 1975). Methaqualone use, on the other hand, rose sharply from 1976 until 1981. (In fact, it was the only drug other than stimulants that was still rising in 1981.) But in 1982, the use of methaqualone also began to decline, which accounted

*We think the unadjusted estimates for the earliest years of the survey were probably little affected by the improper inclusion of non-prescription stimulants, since sales of the latter did not burgeon until after the 1979 data collection.

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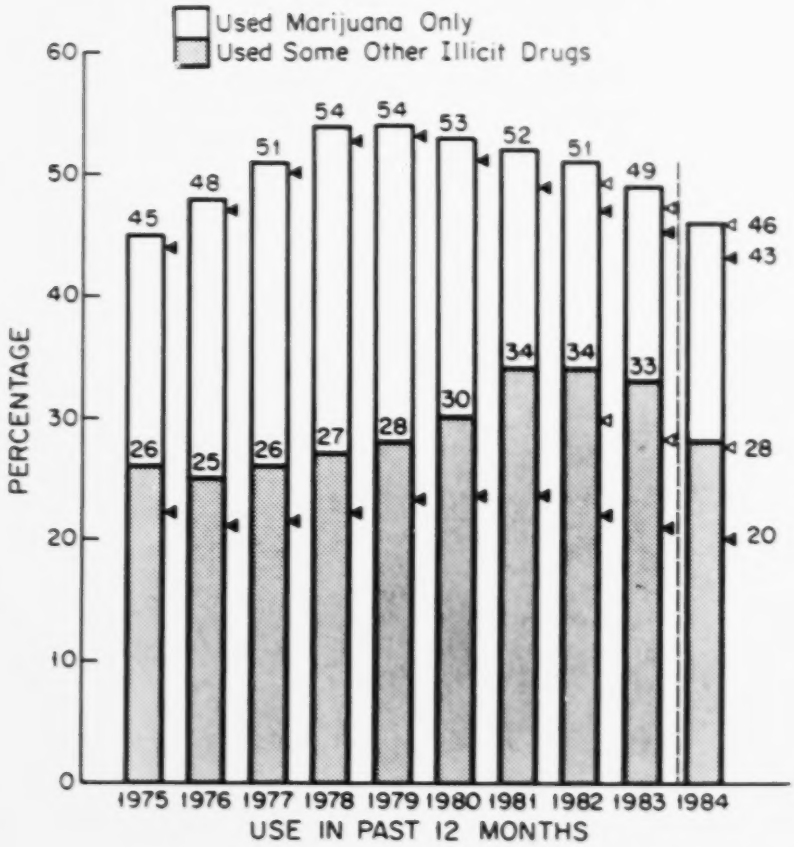
FIGURE C, Cont.

Trends in Annual Prevalence of an Illicit Drug Use Index
All Seniors



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

◀ indicates the percentage which results if all stimulants are excluded from the definition of "illicit drugs." ◁ shows the percentage which results if only non-prescription stimulants are excluded.

The dashed vertical line indicates that after 1983 the shaded and open bars are defined by using the revised amphetamine questions.

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for the overall sedative category resuming its decline. Annual use now stands at only half of its peak level observed by 1981 (3.8% vs. 7.6% in 1981).

- The usage statistics for tranquilizers continued their steady decline this year—a decline which began in 1977. Lifetime prevalence has dropped from 18% in 1977 to 12% in 1984, annual prevalence from 11% to 6%, and 30-day prevalence from 4.6% to 2.1%.

- Between 1975 and 1979 the prevalence of heroin use had been dropping rather steadily. Lifetime prevalence dropped from 2.2% in 1975 to 1.1% in 1979 and annual prevalence had also dropped by half, from 1.0% in 1975 to 0.5% in 1979. This decline halted in 1980 and the statistics have remained almost constant since then.

  There has been an important increase reported by the National Institute on Drug Abuse in the key measures of more serious involvement in heroin use—heroin-related medical emergencies and overdose deaths. We think the divergent results may in part be explained by (1) the greater dangers of overdose with increased, or more variable, purity; (2) higher recidivism among previous users due both to lower prices and the conditions associated with high unemployment; and (3) the relative insularity of an in-school, low-using population to these forces.

- From 1975 to 1981 the use of opiates other than heroin remained fairly stable, with annual prevalence at or near 6%. In 1982 for the first time there was a statistically significant decline in annual prevalence observed (from 5.9% to 5.3%), but since then there has been little further decline.

- Hallucinogen use (unadjusted for underreporting of PCP) declined some in the middle of the decade (from 11.2% in 1975 to 9.6% in 1978 on annual prevalence). It then leveled for several years before beginning another sustained decline. Between 1979, when the first adjusted figures were available, and 1984, there was a steady decline, with adjusted annual prevalence dropping from 12.8% in 1979 to 7.9% in 1984.

- LSD, one of the major drugs comprising the hallucinogen class, showed a decline from 1975 to 1977, followed by considerable stability through 1981. Since 1981, however, there has been a second period of decline, with annual prevalence falling from 6.5% in 1981 to 4.7% in 1984.

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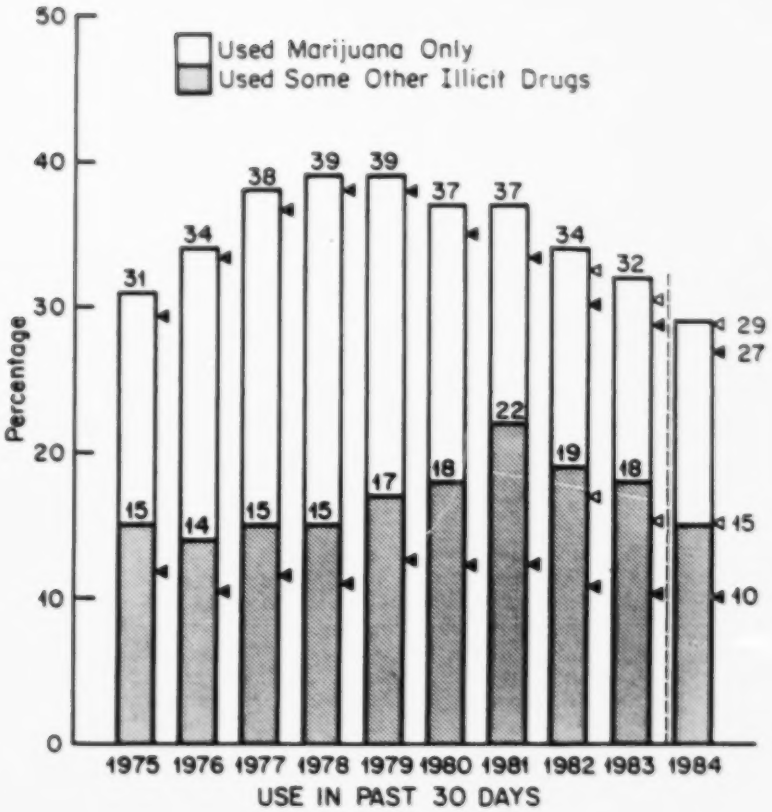
FIGURE C, Cont.

Trends in 30-Day Prevalence of an Illicit Drug Use Index
All Seniors



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

◀ indicates the percentage which results if all stimulants are excluded from the definition of "illicit drugs." ◁ shows the percentage which results if only non-prescription stimulants are excluded.

The dashed vertical line indicates that after 1983 the shaded and open bars are defined by using the revised amphetamine questions.

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- The lifetime prevalence statistic for the specific hallucinogen PCP showed a continuation of the steady and very substantial decrease which began in 1979 when we first measured the use of this drug (lifetime prevalence has dropped from 12.8% in the class of 1979 to 5.0% in the class of 1984). The annual and 30-day statistics for PCP show slight drops in 1984 (neither is statistically significant), which offset a similarly slight rise the previous year.

- As can be seen from these varied patterns for the several classes of illicit drugs, while the overall proportion of seniors using any illicit drugs in their lifetime other than marijuana or amphetamines has changed rather little, the mix of drugs they are using has changed quite substantially.

- Turning to the licit drugs, between 1975 and 1978 or 1979 there was a small upward shift in the prevalence of alcohol use among seniors. To illustrate, between 1975 and 1979 the annual prevalence rate rose steadily from 85% to 88%, the monthly prevalence rose from 68% to 72%, and the daily prevalence rose from 5.7% to 6.9%. Since 1979, there has been virtually no drop in lifetime prevalence, but some drop for the more recent prevalence intervals: between 1979 and 1984, annual prevalence fell from 88% to 86%, monthly prevalence from 72% to 67%, and daily prevalence from 6.9% to 4.8%. Clearly the change in daily use is the most important of these shifts.

- There also had been some increase in the frequency of occasional heavy drinking in the last half of the 1970's. When asked whether they had taken five or more drinks in a row during the prior two weeks, 37% of the seniors in 1975 said they had. This proportion rose gradually to 41% by 1979, where it remained until 1983. In 1984, for the first time since the study began, we observe a drop in this troublesome statistic; the shift is from 41% to 39%, which falls just short of being statistically significant. Thus, to answer a frequently asked question, there is no evidence that the currently observed drop in marijuana use is leading to a concomitant increase in alcohol use. If anything, there has been some parallel decline in daily alcohol use as well as in occasional heavy drinking.

- As for cigarette use, 1976 and 1977 appear to have been the peak years for lifetime, thirty-day, and daily prevalence. (Annual prevalence is not asked.) Over the subsequent graduating classes, thirty-day prevalence had been dropping, from 38% in the class of 1977 to 29% in the class of 1981. More importantly, daily cigarette use dropped over that same interval from

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29% to 20%, and daily use of half-pack-a-day or more from 19.4% to 13.5% between 1977 and 1981 (nearly a one-third decrease). In 1981 we reported that the decline appeared to be decelerating; in 1982 and 1983 it clearly had halted. However, in 1984 the decline once again resumed with daily use falling from 21% to 19%, and daily use of half-a-pack-a-day dropping from 13.8% to 12.3%.

Trend Comparisons for Important Subgroups

Sex Differences in Trends

- Most of the sex differences mentioned earlier for individual classes of drugs have remained relatively unchanged over the past seven years—that is, any trends in overall use have occurred about equally among males and females. There are, however, a few exceptions.

- Since 1977, the small sex difference involving tranquilizer use (men this age had used them less frequently than women) has disappeared, due to a faster decline among females.

- The ratio of male-female prevalence rates in cocaine use, which was rather large in the mid-1970's, diminished somewhat in the early 1980's. However, in 1983 and 1984 the difference appears to be widening again, and certainly males use considerably more frequently than females.

- Regarding stimulant use, a sex difference emerged in 1981 and 1982 using the original version of the question; but the revised question introduced in 1982 showed no sex difference, suggesting that over-the-counter diet pills accounted for females showing higher use in those two years on the original question.

- An examination of the trends in the proportion of each sex using any illicit drug in the prior year (see Figure F) suggests that use among males rose between 1975 and 1978, and has been declining since then (from 59% in 1978 to 50% in 1983). Use among females increased from 1975 (41%) until 1981 (51%) and has been dropping since then (to 48% in 1983). However, if amphetamine use is deleted from the statistics (see ◄ notations in Figure F), female use peaked earlier (in 1979) and then declined as well. (Note that the declines for both males and females are attributable to the declining marijuana use rates.)

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- Regarding the apparent parity between the sexes in the levels and trends in the use of illicit drugs other than marijuana, it can be seen in Figure F that, when amphetamine use is excluded from the calculations, somewhat differential levels emerge for males vs. females but the trends tend to remain fairly parallel.

- The sex differences in alcohol use have narrowed slightly since 1975. For example, the thirty-day prevalence rates for males and females differed by 12.8% in 1975 (75.0% vs. 62.2% respectively), but that difference was down to 8.6% by 1984 (71.4% vs. 62.8%). And, although there still remain substantial sex differences in daily use and occasions of heavy drinking, there has been some narrowing of the differences there, as well. For example, between 1975 and 1984 the proportion of males admitting to having five drinks in a row during the prior two weeks showed a net decrease of 1.5% (from 49.0% to 47.5%), whereas a net increase of 3.2% occurred for females (from 26.4% to 29.6%).*

- Regarding cigarette smoking, we observed in 1977 that females for the first time caught up to males at the half-a-pack per day smoking level (Figure E-1). Then, between 1977 and 1981, both sexes showed a decline in the prevalence of such smoking; but use among males dropped more, resulting in a reversal of the sex differences. As of 1984, the proportions of males and females smoking at least a half pack a day differ rather little (11.0% for males, 12.8% for females); and at the pack-a-day level, there are slightly more males (6.6%) than females (6.2%). However, at less frequent levels of smoking, there is a somewhat larger sex difference, since there are more occasional smokers among females than among males. For example, in 1984, 32% of the females report smoking at least once in the prior 30 days, vs. only 26% of the males.

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*It is worth noting that the same number of drinks produces substantially greater impact on the blood alcohol level of the average female than the average male, because of sex differences in body weight. Thus, sex differences in frequency of actually getting drunk may not be as great as the binge drinking statistics would indicate, since they are based on a fixed number of drinks.

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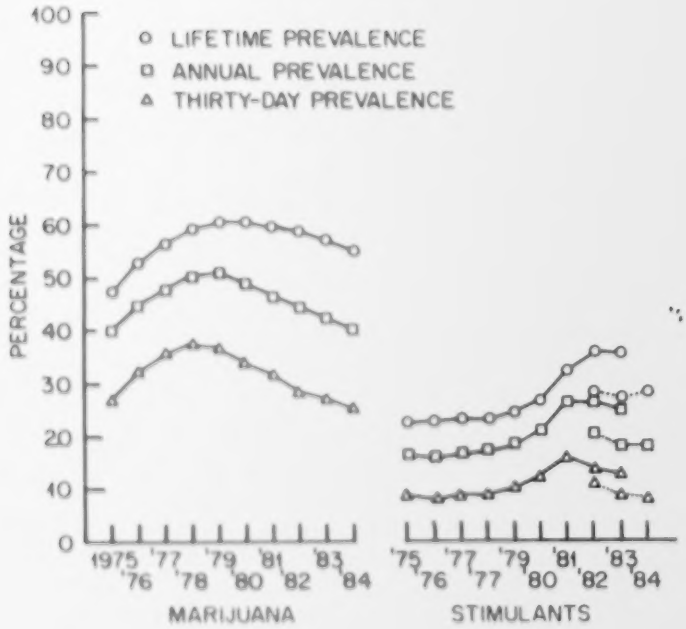
FIGURE D

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Sixteen Drugs



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

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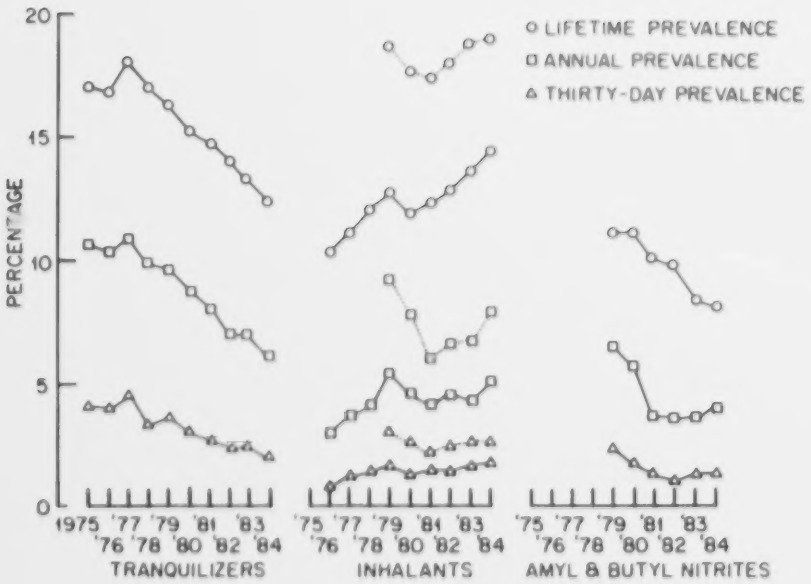
FIGURE D (cont.)

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Sixteen Drugs



NOTE: The dotted lines connect percentages which are adjusted for underreporting of amyl and butyl nitrites.

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FIGURE D (cont.)

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Sixteen Drugs

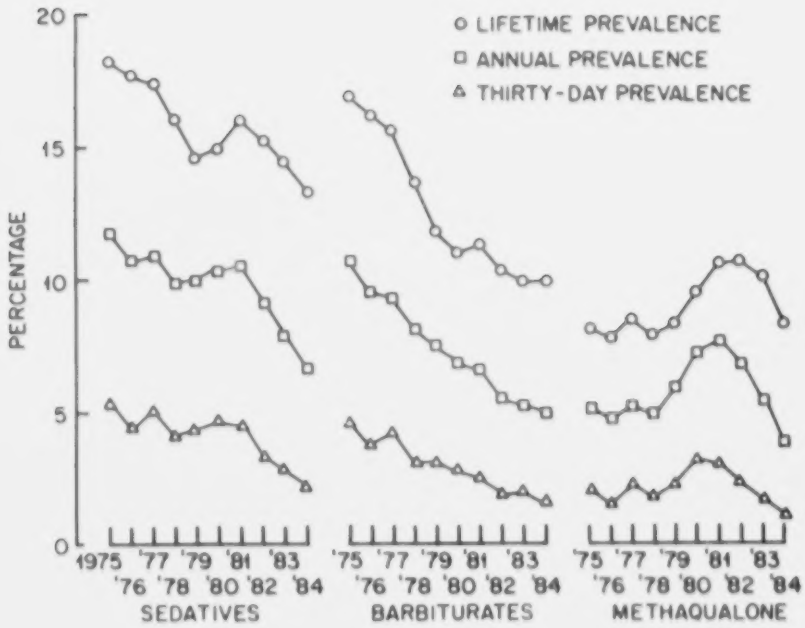

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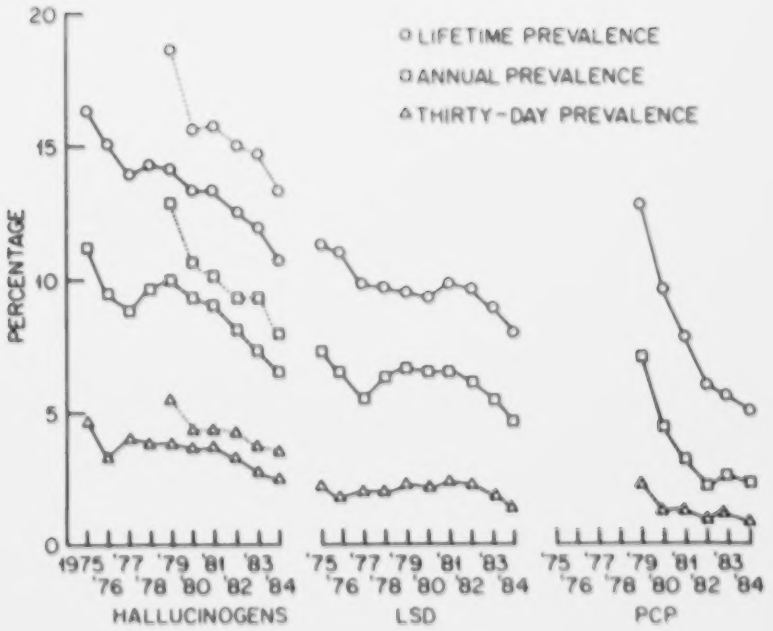
FIGURE D (cont.)

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Sixteen Drugs



NOTE: The dotted lines connect percentages which are adjusted for underreporting of PCP.

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FIGURE D (cont.)

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Sixteen Drugs

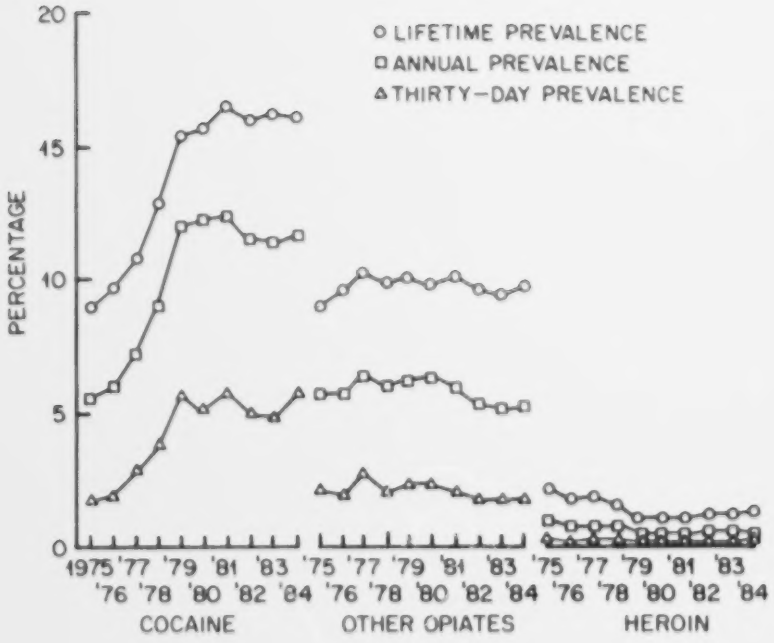

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FIGURE D (cont.)

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Sixteen Drugs

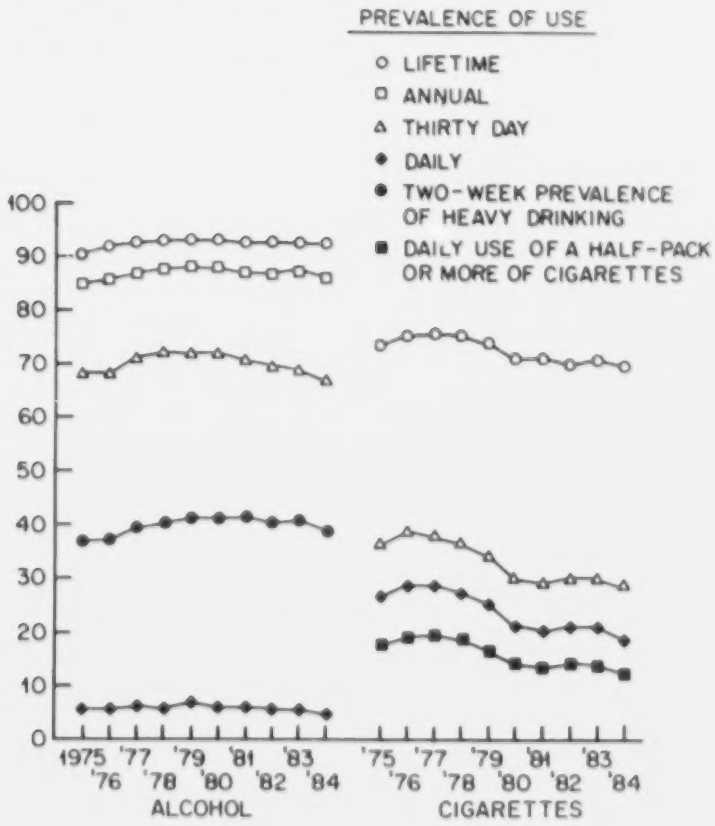

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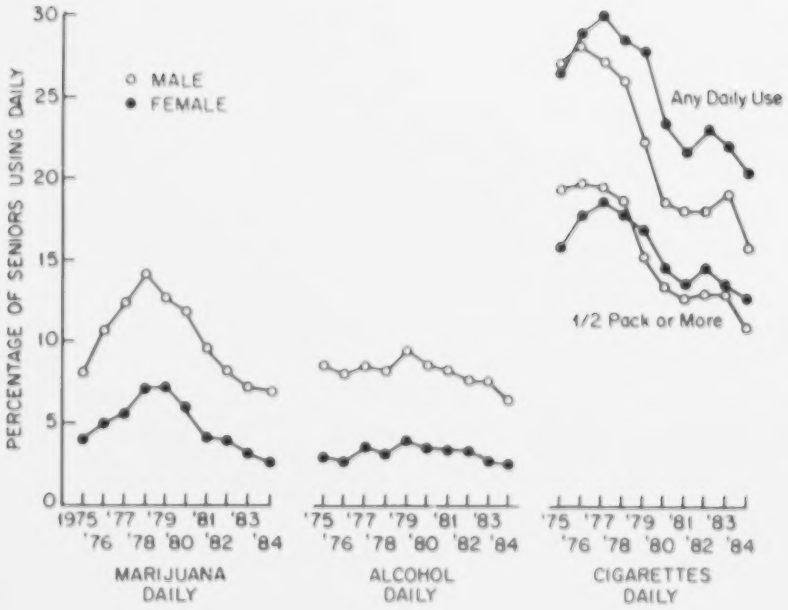
FIGURE E-1

Trends in Thirty-Day Prevalence of Daily Use of Marijuana, Alcohol, and Cigarettes
by Sex



NOTE: Daily use for alcohol and marijuana is defined as use on 20 or more occasions in the past thirty days. Daily use of cigarettes is defined as smoking one or more cigarettes per day in the past thirty days.

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FIGURE E-2

Trends in Two-Week Prevalence of Heavy Drinking
by Sex

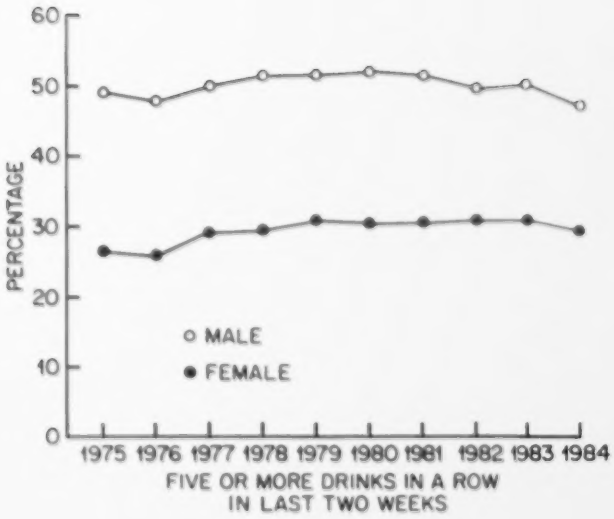

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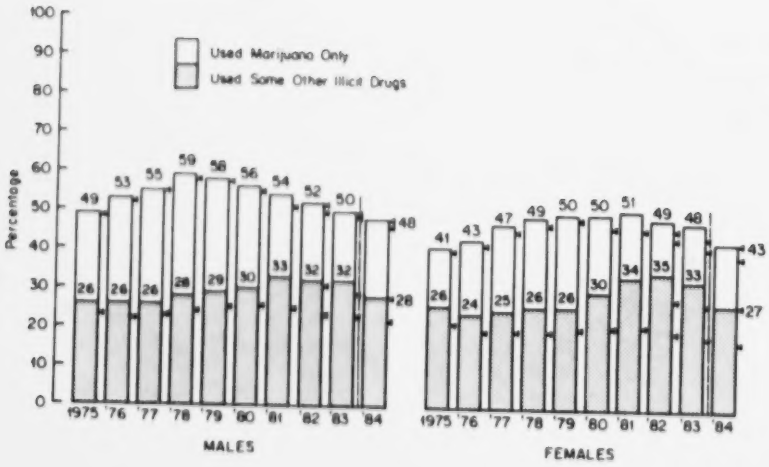
FIGURE F

Trends in Annual Prevalence of an Illicit Drug Use Index by Sex



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

◀ indicates the percentage which results if all stimulants are excluded from the definition of "illicit drugs." ◁ shows the percentage which results if only non-prescription stimulants are excluded.

The dashed vertical line indicates that after 1983 the shaded and open bars are defined by using the revised amphetamine questions.

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Trend Differences Related to College Plans

- Both college-bound and noncollege-bound students have been showing fairly parallel trends in overall illicit drug use over the last several years (see Figure G).*

- Changes in use of the specific drug classes have also been generally quite parallel for the two groups since 1976, with only minor exceptions.

Regional Differences in Trends

- In terms of the proportion of seniors using any illicit drug during the year, all four regions of the country reached their peaks in 1978 or 1979 (Figure H), and generally have been falling since then. However, in 1984 the Northeast showed a slight reversal, due in part to a statistically significant increase in cocaine use; and the South showed no further decline in 1984.

- In 1983 and 1984, the North Central region has shown some trends which deviate from the other regions. For example, the use of marijuana and cocaine both showed unusual drops between 1982 and 1984. Cigarette smoking and LSD use also dropped appreciably between 1983 and 1984. On the other hand, amphetamine use tended to remain stable at the highest level of any of the regions.

- As noted earlier, a major factor in the rise of illicit drug use other than marijuana had been an increase in reported amphetamine use. Such a rise appeared in all four regions; however, the rise from 1978 to 1981 was only 6% in the South, whereas in the other regions the percentages all had risen between 9% and 12%. In essence, the South has been least affected by both the rise and the fall in reported amphetamine use.

- When amphetamine use is excluded, as shown by the arrow (◄) in Figure H, a rather different picture appears for regional trends during the late seventies and early eighties than the picture given by the shaded bars (which include all reported amphetamine use). Use of illicits other than marijuana and amphetamines actually started to decline in the South and North Central in 1981—both regions having had fairly level rates of use prior to that. Rates in the West and the

*Because of excessive missing data in 1975 on the variable measuring college plans, group comparisons are not presented for that year.

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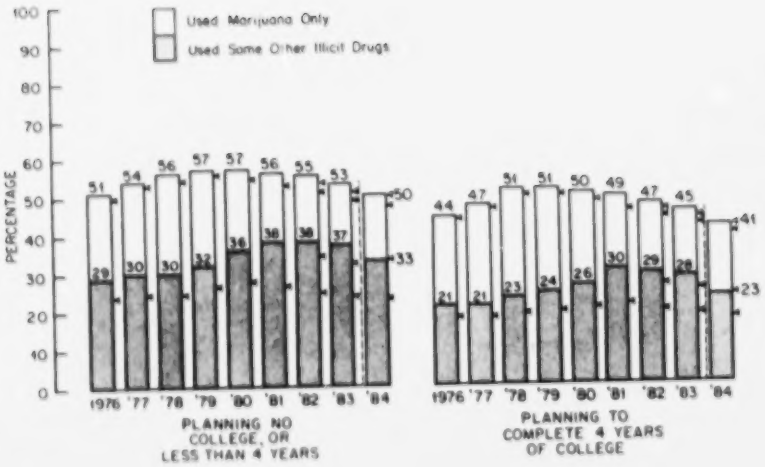
FIGURE G

Trends in Annual Prevalence of an Illicit Drug Use Index
by College Plans



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

◀ indicates the percentage which results if all stimulants are excluded from the definition of "illicit drugs." ◁ shows the percentage which results if only non-prescription stimulants are excluded.

The dashed vertical line indicates that after 1983 the shaded and open bars are defined by using the revised amphetamine questions.

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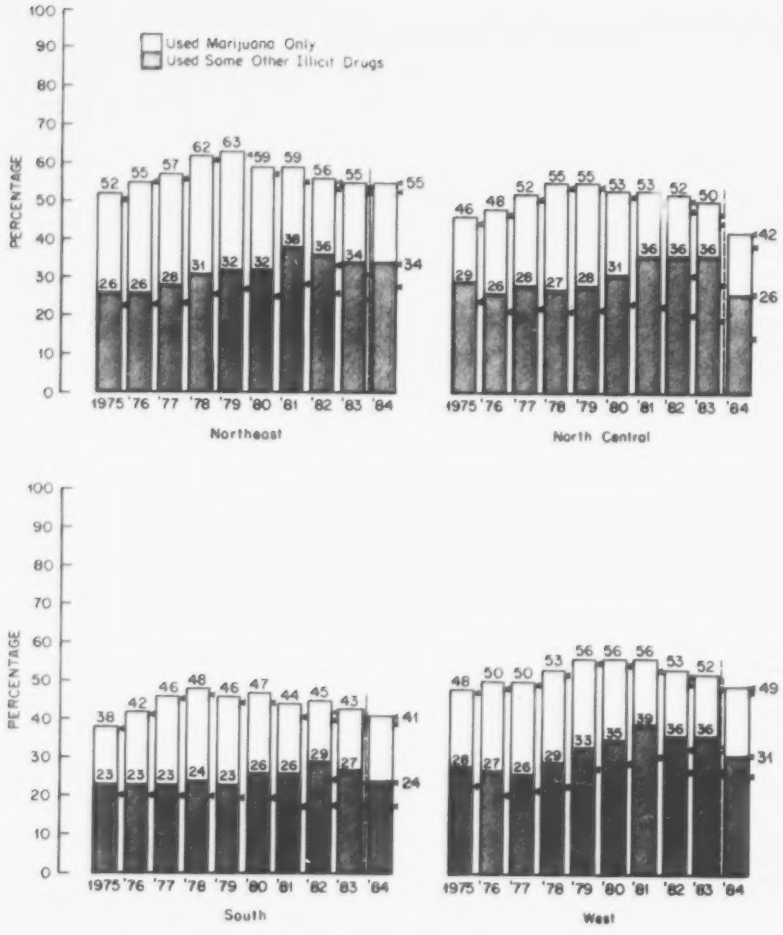
FIGURE H

Trends in Annual Prevalence of an Illicit Drug Use Index
by Region of the Country



NOTES: See Figure G for relevant footnotes.

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Northeast did not begin their decline until 1982, after a period of some increase in student involvement with such drugs (but not as great an increase as the "uncorrected" figures would suggest). In 1984, there was little further change in the South and West; but due to significant changes in cocaine use, the Northeast showed an increase in this statistic, and the North Central a further decline.

- Cocaine use has shown quite different trends in the four regions of the country. In the mid seventies, there was relatively little regional variation in cocaine use. Then, large regional differences emerged between 1976 and 1981, as annual use roughly tripled in the West and Northeast, while it only doubled in the North Central and increased only by about 80% in the South. Since 1981, there has been some further increase in the Northeast (occurring specifically in 1984), some decline in the West and North Central, and little change in the South.

- Up until 1983, there had been a diminution in regional differences in hallucinogen use. In 1981, both the North Central and the West had annual rates that were about two and one-half times higher than the South (10.3%, and 10.4%, and 4.1%, respectively), and the Northeast was three times as high (12.9%). After 1981, hallucinogen use dropped appreciably in all three non-Southern regions, narrowing these differences. (PCP use dropped in all four regions.) However, in 1984, an increase in use of LSD, and use of other psychedelics, in the Northeast set it somewhat apart from the other regions.

- The remaining drugs (i.e., alcohol, cigarettes, marijuana, heroin, other opiates, barbiturates, methaqualone, tranquilizers, and inhalants) show rather little regional variation in trends.

Trend Differences Related to Population Density

- There appears to have been a peaking in 1979 in the proportions using any illicit drug in all three levels of community size (Figure I). Although the smaller metropolitan areas and the non-metropolitan areas never caught up completely with their larger counterparts, they did narrow the gap some between 1975 and 1979. Most of that narrowing was due to changing levels of marijuana use, and most of it occurred prior to 1978.

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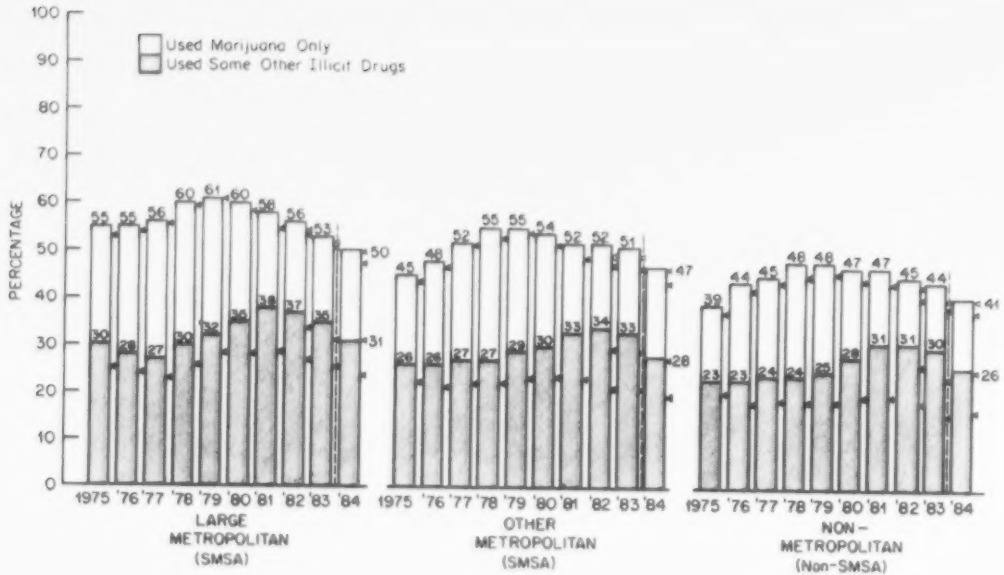
FIGURE I

Trends in Annual Prevalence of an Illicit Drug Use Index
by Population Density



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NOTES: See Figure G for relevant footnotes.

- The overall proportion involved in illicit drugs other than marijuana also has peaked in communities of all sizes, but not until 1981 or 1982. Up to 1981, the proportions reporting the use of some illicit drug other than marijuana in the last 12 months had been increasing continuously (over a four-year period in the very large cities, and over a three-year period in the smaller metropolitan and non-metropolitan areas). As can be seen by the special notations in Figure I, almost all of this increase is attributable to the rise in reported amphetamine use (which likely is artifactual in part). The 1983 figures show decreases of one to two percent in all three levels of community size. The decline continued in 1984 in the metropolitan areas, but the non-metropolitan areas were stable or showed a slight increase.

- The increase in cocaine use, although dramatic at all levels of urbanicity between 1976 and 1979, was clearly greatest in the large cities. There has been a slight (but not statistically significant) decline in use in the large cities since 1980. Cocaine use has been fairly stable over the last five years in the smaller cities and the non-metropolitan areas.

- There is evidence of a decline in current alcohol use in the large cities in recent years. For example, thirty-day prevalence in the large cities is down by 11%, from 78% in 1980 to 67% in 1984; during the same four-year interval, the small metropolitan areas decreased 5% (from 71% to 66%), and the non-metropolitan areas did not change (69%). Similarly, daily use decreased between 1980 and 1984 by 2.0% in the large cities (7.1% to 5.1%), while the smaller cities decreased by 0.9% (5.4% to 4.5%) and non-metropolitan areas decreased by 1.0% (6.1% to 5.1%). And occasional heavy drinking decreased by 7% (from 45% to 38%) in the large cities, compared to a 2% decrease in other cities (39% to 37%) and no change in non-metropolitan areas (41%). These differential shifts result in less variation among the three levels of urbanicity in 1984 than there had been several years earlier.

- Differences related to community size have also narrowed in the cases of LSD (since 1981) and PCP (since 1979) due to a greater amount of decrease in the large cities and other cities than in the non-metropolitan areas (which started out considerably lower for both drugs).

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USE AT EARLIER GRADE LEVELS

In two of the five questionnaire forms used in the study, respondents are asked to indicate the grade in which they were enrolled when they first tried each class of drugs. Graphic presentations on a drug-by-drug basis of the trends for earlier grade levels and of the changing age-at-onset curves for the various graduating classes are contained in the large 1978, 1981, and 1984 reports from the study (cited earlier). For the purposes of these highlights, only some of these figures are included. Table 12 gives the percent of the 1984 seniors who first tried each drug at each of the earlier grade levels.

Grade Level at First Use

- For marijuana, alcohol, and cigarettes, most of the initial experiences took place before high school. For example, daily cigarette smoking was begun by 14% prior to tenth grade vs. only an additional 8% in high school (i.e., in grades ten through twelve). The figures for initial use of alcohol are 56% prior to and 36% during high school; and for marijuana, 32% prior to and 23% during high school (see Table 12).

  For most of the illicit drugs, between 40 and 50% of the eventual users initiated use prior to 10th grade; inhalants, barbiturates, nitrites, heroin, PCP, amphetamines, methaqualone, and tranquilizers fall in this category.

  Among eventual users of hallucinogens, LSD (specifically), and opiates other than heroin, still a substantial minority—about one-third—initiate use prior to tenth grade.

- Cocaine presents a contrasting picture to nearly all other drugs in that initiation rates are highest in the last two years of high school. Furthermore, our follow-ups of earlier graduating classes show that initiation rates remain high in the years after high school.

Trends in Use at Earlier Grade Levels

- Using the retrospective data provided by members of each senior class concerning their grade at first use, it is possible to reconstruct lifetime prevalence curves at lower grade levels during the years when each class was at those various grade levels. Obviously, data from eventual dropouts from school are not included in any of the curves. Figures J-1 through J-18 show the reconstructed lifetime prevalence curves for earlier grade levels for a number of drugs.

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TABLE 12

Grade of First Use for Sixteen Types of Drugs, Class of 1984

Grade in which drug was first used:	Marijuana	Inhalants [a]	Amyl / Butyl Nitrites	Hallucinogens [a]	LSD	PCP	Cocaine	Heroin	Other Opiates	Stimulants [b] (adjusted)	Sedatives	Barbiturates	Methaqualone	Tranquilizers	Alcohol	Cigarettes (Daily)
6th	4.3	1.3	0.6	0.1	0.1	0.5	0.1	0.0	0.2	0.5	0.4	0.2	0.1	0.2	10.4	2.9
7-8th	14.1	3.1	1.5	1.2	0.7	0.5	0.7	0.2	0.8	3.1	1.8	1.4	1.0	1.4	22.4	5.9
9th	13.6	2.7	1.7	2.5	2.0	1.3	2.3	0.4	2.3	8.9	4.2	3.2	2.6	3.3	23.6	5.1
10th	11.2	2.9	1.7	3.0	2.1	1.2	3.4	0.3	2.5	7.9	3.8	2.9	2.3	2.5	18.4	4.2
11th	7.3	2.0	1.3	2.6	2.1	1.0	5.0	0.2	2.3	4.9	2.1	1.5	1.6	3.1	12.0	2.5
12th	4.6	2.4	1.3	1.2	1.0	0.5	4.6	0.2	1.6	2.6	1.0	0.7	0.5	1.7	5.9	1.4
Never used	45.1	85.6	91.9	89.3	92.0	95.0	83.9	98.7	90.3	72.1	86.7	90.1	91.7	87.6	7.4	78.0

NOTE: This question was asked in two of the five forms (N = approximately 5700), except for inhalants, PCP, and the nitrites which were asked about in only one form (N = approximately 2800).

[a] Unadjusted for known underreporting of certain drugs. See page 18.

[b] Adjusted for overreporting of the non-prescription stimulants.

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- Figure J-1 provides the trends at each grade level for lifetime use of any illicit drug. It shows that for all grade levels there was a continuous increase in illicit drug involvement through the seventies. The increase is fortunately quite small for use prior to sixth grade; only 1.1% of the class of 1975 reported having used an illicit drug before 6th grade (which was in 1969 for that class), but the figure has increased modestly, and for the class of 1984 is at 5.0% (which was in 1978 for that class). The lines for the other grade levels all show much steeper upward slopes, indicating that the more recent graduating classes had initiated illicit drug use earlier than the less recent classes. For example, about 48% of the class of 1984 had used some illicit drug by the end of grade 10, compared to 37% of the class of 1975.

- Beginning in 1980, though, there was a leveling off at the high school level (grades 10, 11, and 12) in the proportion becoming involved in illicit drugs. There may well be a leveling (or even a decline) in the lower grades in the same period; but insufficient data are available at present to confirm that fact.

- Most of the increase in any illicit drug use was due to increasing proportions using marijuana. We know this from the results in Figure J-2 showing trends for each grade level in the proportion having used any illicit drug other than marijuana in their lifetime. Compared to Figure J-4 for marijuana use, these trend lines are relatively flat throughout the seventies and, if anything, began to taper off among ninth and tenth grade between 1975 and 1977. The biggest cause of the increases in these curves from 1978 to 1981 was the rise in reports of amphetamine use. As noted earlier, we suspect that at least some of this rise is artifactual. If amphetamine use is removed from the calculations, even greater stability is shown in the proportion using illicits other than marijuana or amphetamines. (See Figure J-3).

- As can be seen in Figure J-4, for the years covered across the decade of the 70's, marijuana use had been rising steadily at all grade levels down through seventh grade. Beginning in 1979, marijuana involvement began to decline for grades 9 through 12. Further, the trend line for grade 8 shows a leveling in 1978 to 1980, strongly suggesting that junior high school use reached an asymptote by the end of the seventies, as well. There was also a steady increase in marijuana use during the 1970's at the elementary level (that is, prior to seventh grade), but the increase was much less pronounced than those for the higher grades. Use by sixth grade or lower rose gradually from 0.6% for the

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class of 1975 (who were sixth graders in 1968-69) to 4.3% of the class of 1984 (who were sixth graders in 1977-78). The three most recent national household surveys by NIDA suggest that this relatively low level continues to be true: the proportion of 12 to 13 year olds reporting any experience with marijuana was 6% in 1971, and was constant at 8% in 1977, 1979, and 1982. Presumably sixth graders would have even lower absolute rates, since the average age of sixth graders is less than twelve.*

- Cocaine use at earlier grade levels is given in Figure J-5. One clear contrast to the marijuana pattern is that most initiation into cocaine use takes place in the last two years of high school (rather than earlier, as is the case for marijuana). Further, most of the increase in cocaine experience between 1976 and 1980 occurred in the 11th and 12th grades, not below. Since 1980, experience with cocaine has remained level in the four grades for which data exist, i.e., grades 9 through 12.

- The lifetime prevalence statistics for stimulants peaked briefly for grade levels 9 through 12 during the mid 70's. (See Figure J-6.) However, it showed a sharp rise in the late 70's at virtually all grade levels. As has been stated repeatedly, we believe that some—perhaps most—of this recent upturn is artifactual in the sense that non-prescription stimulants account for much of it. However, regardless of what accounts for it, there was a clear upward secular trend—that is, one derived across all cohorts and grade levels—beginning in 1979. The unadjusted data from the class of 1983 give the first indication of a reversal of this trend. The adjusted data from the classes of 1982, 1983, and 1984 suggest that the use of stimulants probably leveled, beginning in 1982, at least in the higher grades for which there are data. (Recall that current use has actually fallen since 1982 among twelfth graders.)

- Lifetime prevalence of hallucinogen use (unadjusted for underreporting of PCP) began declining among students at most grade levels in the mid-1970's (Figure J-7), and this gradual decline continues in the upper grades. However, it appears that a leveling occurred in 1979 through 1981 in the lower grades, due almost entirely to the trends in LSD use. (The trend curves for LSD (not shown) are extremely similar in shape, though lower in level, of course.)

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*See National Survey on Drug Abuse: Main Findings 1982 by J.D. Miller et al. Rockville, MD: National Institute on Drug Abuse, 1983.

- While there is less trend data for PCP, since questions about grade of first use of PCP were not included until 1980, some interesting results emerge. It appears that a sharp downturn began around 1979 (see Figure J-8), and the trend continues down, though more gradually in recent years. If the hallucinogen figure (J-7) were adjusted for underreporting of PCP use, it would be showing even more downturn in recent years.

- Questions about age at first use for inhalants (unadjusted for the nitrites) have been asked only since 1978. The retrospective trend curves (Figure J-9) suggest that during the mid 1970's, experience with inhalants decreased for most grade levels and then began to rise again. Compared to the classes of 1982 and 1983, the class of 1984 continues to show increased prevalence at the higher grades (10-12), but lower prevalence at the pre-high school grade levels. In other words, the class of 1984 is showing a higher rate of initiation of use of inhalants during the high school years compared to the previous two classes.

- Since grade-at-first-use data have been gathered for the nitrites beginning in 1979, only limited retrospective data exist (Figure J-10). These do not show the recent increase observed for the overall inhalant category. In fact, they show a gradual decline in experience with the nitrites, which began around 1980.

- Figure J-11 shows that the lifetime prevalence of sedative use, like stimulant use, began declining for all grade levels in the mid 70's, then showed some reversal in the late 70's. (Recall that annual prevalence observed for seniors had been declining steadily from 1975 to 1979.) As the graphs for the two subclasses of sedatives—barbiturates and methaqualone—show, the trend lines have been different for them at earlier grade levels as well as in twelfth grade (see Figures J-12 and J-13). Since about 1974 or 1975, lifetime prevalence of barbiturate use had fallen off sharply at all grade levels for all classes until the late 70's; since then there has been little change (although current use continues to decline among seniors, at least).

  Methaqualone use started to fall off at about the same time as barbiturate use in nearly all grade levels, but dropped rather little and then flattened. Between 1978 and 1981 there had been a fair increase in use in nearly all grade levels; but the most recent statistics for the upper grades show a decline.

- Lifetime prevalence of tranquilizer use (Figure J-14) also began to decline at all grade levels in the mid-70's. Overall, it would appear that the tranquilizer

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trend lines have been following a similar course to that of barbiturates. So far, the curves are different only in that tranquilizer use continued a steady decline among eleventh and twelfth graders, while barbiturate use did not.

- Though a little difficult to see, the heroin lifetime prevalence figures for grades 9 through 12 all began declining in the mid 1970's, then leveled, and show no evidence of reversal as yet (Figure J-15).

- The lifetime prevalence of use of opiates other than heroin has remained quite flat at all grade levels since the mid-70's (Figure J-16).

- Figure J-17 presents the lifetime prevalence curves for cigarette smoking on a daily basis. It shows dramatically that initiation to daily smoking was beginning to peak at the lower grade levels in the mid 1970's. This peaking did not become apparent among high school seniors until a few years later. In essence, these changes reflect in large part cohort effects—changes which show up consistently across the age band for certain class cohorts. Because of the highly addictive nature of nicotine, this is a type of drug-using behavior in which one would expect to observe enduring differences between cohorts if any are observed at a formative age. The classes of 1982 and 1983 showed some leveling of the previous decline, but the class of 1984 shows an encouraging resumption of the decline.

- The comparable curves for lifetime prevalence of alcohol at higher grade (11-12) levels (Figure J-18) are very flat, reflecting little change. At the 7-10th grade levels, the curves show slight upward slopes in the early 1970's, indicating that compared to the older cohorts (prior to the class of 1978), more recent classes initiated use at earlier ages. For example, 50% of the class of 1975 first used alcohol in ninth grade or earlier, compared to 55 or 56% for all classes since 1978.

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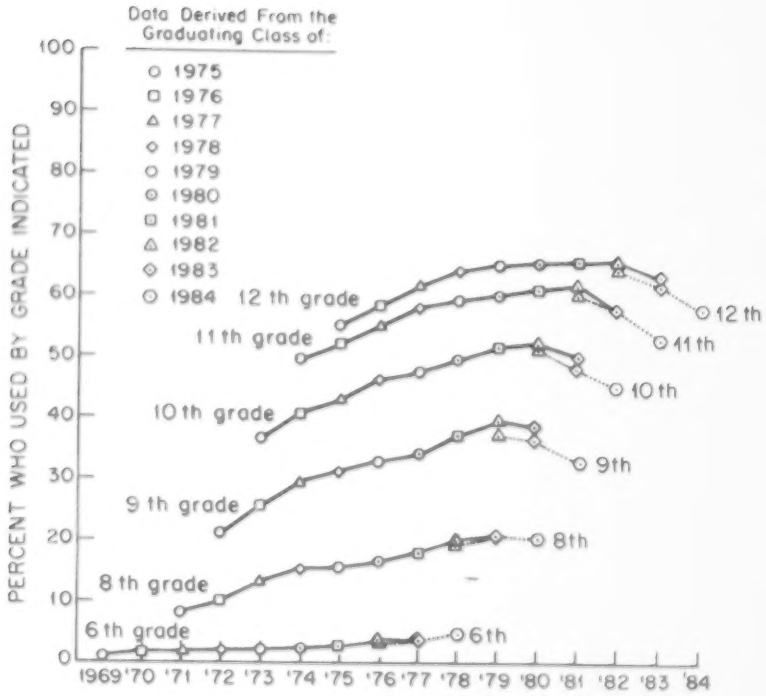
FIGURE J-1

Use of Any Illicit Drug: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

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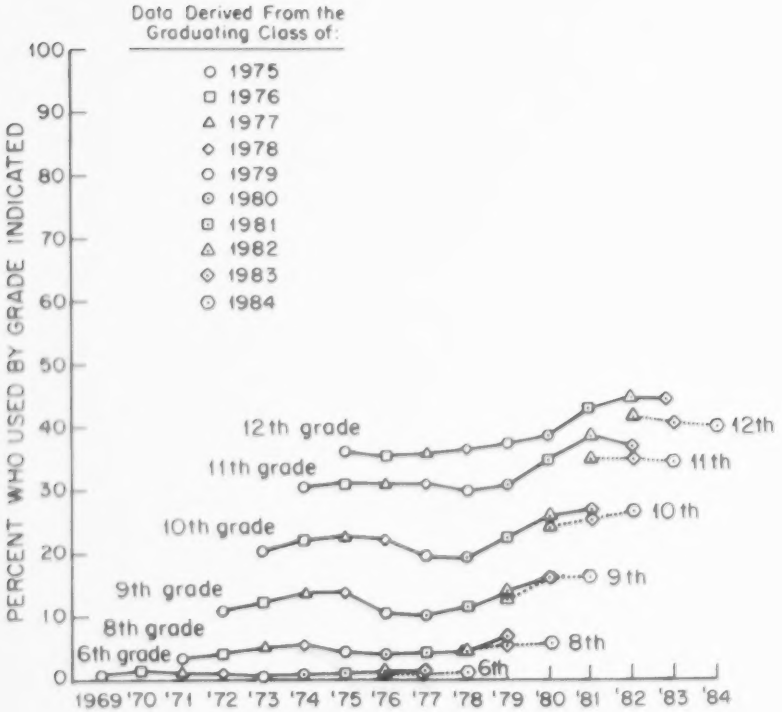
FIGURE J-2

Use of Any Illicit Drug Other Than Marijuana: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

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FIGURE J-3

Use of Any Illicit Drug Other Than Marijuana or Amphetamines: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

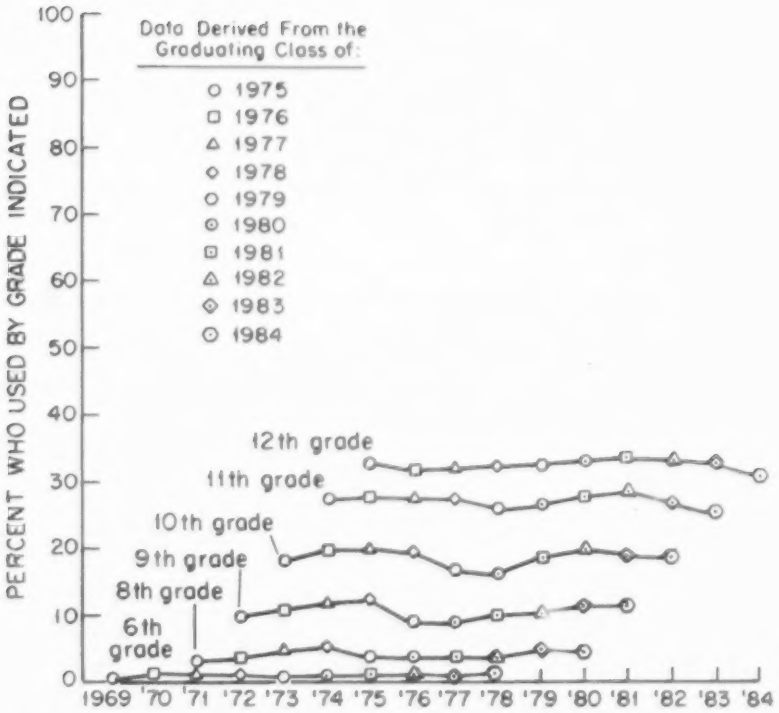

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FIGURE J-4

Marijuana: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

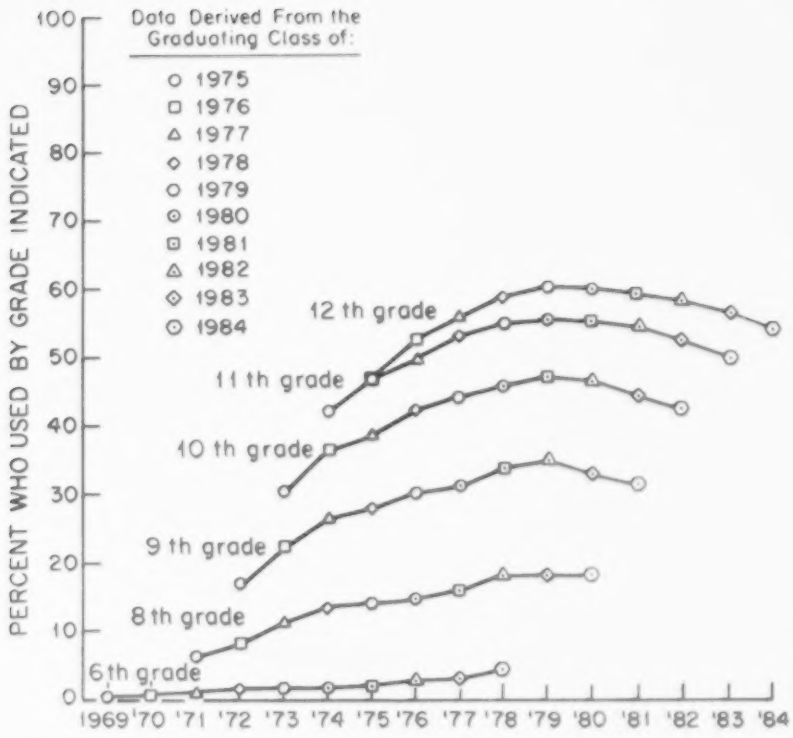

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FIGURE J-5

Cocaine: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

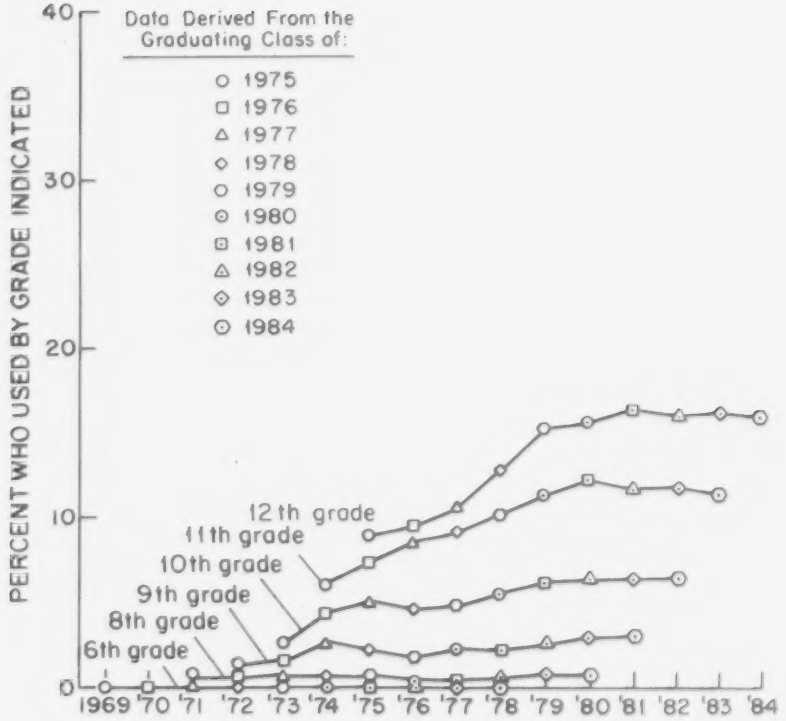

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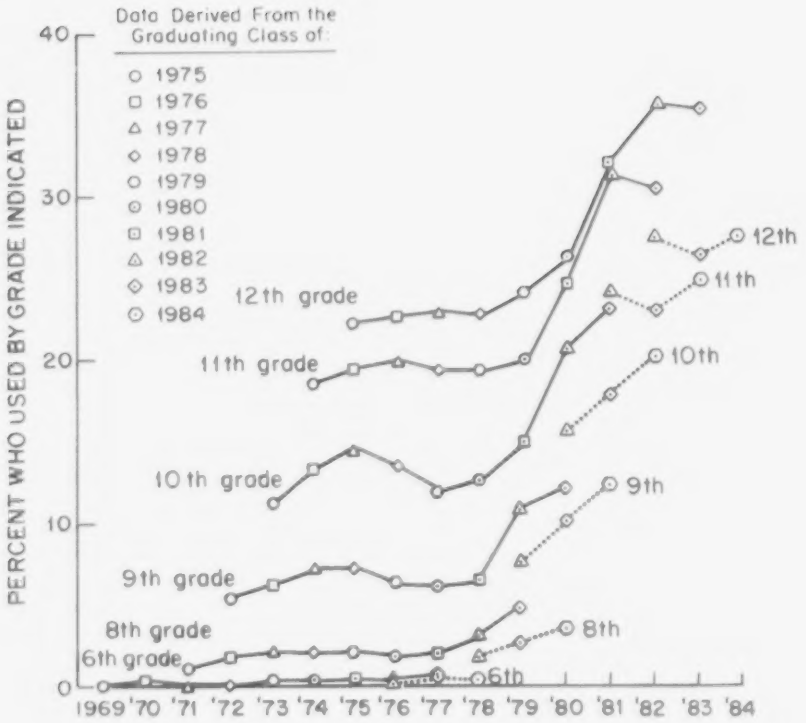
FIGURE J-6

Stimulants: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

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FIGURE J-7

Hallucinogens: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

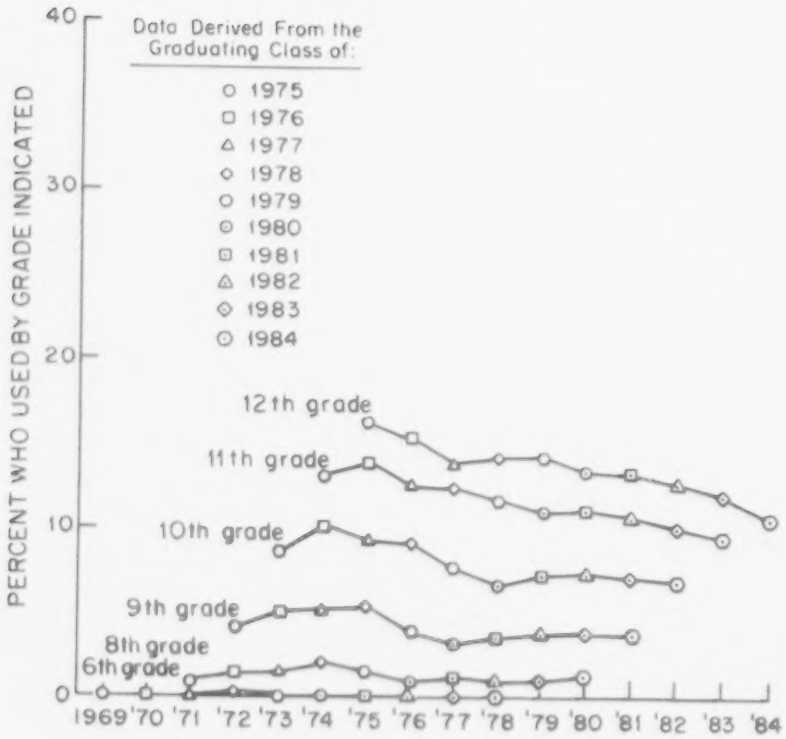

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FIGURE J-8

PCP: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

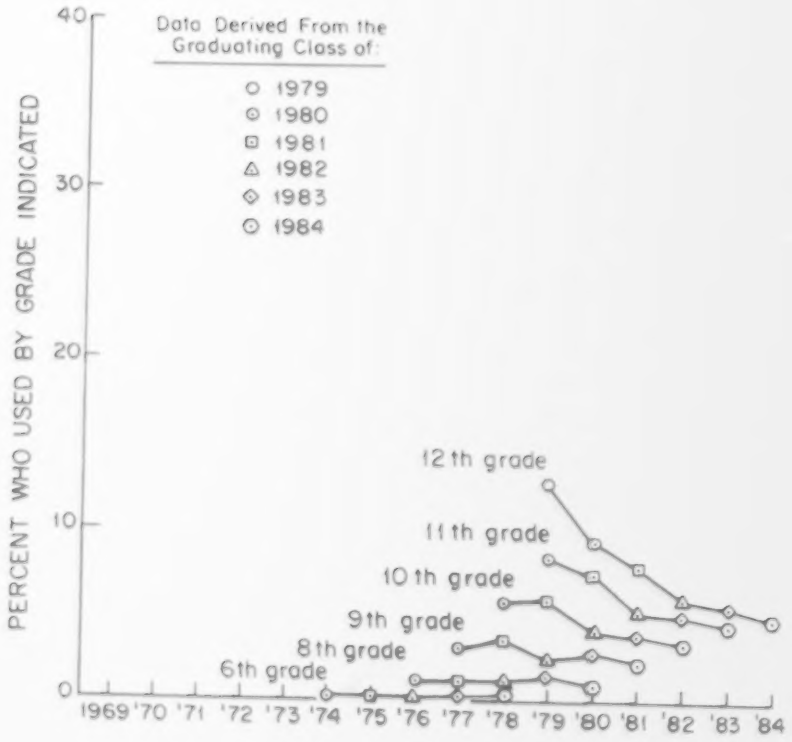

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FIGURE J-9

Inhalants: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

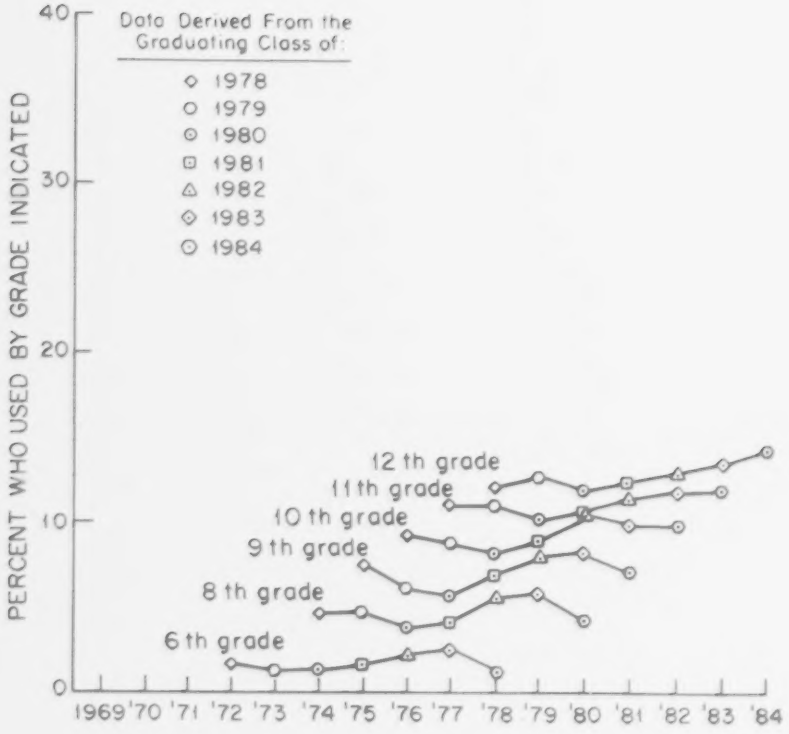

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FIGURE J-10

Nitrites: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

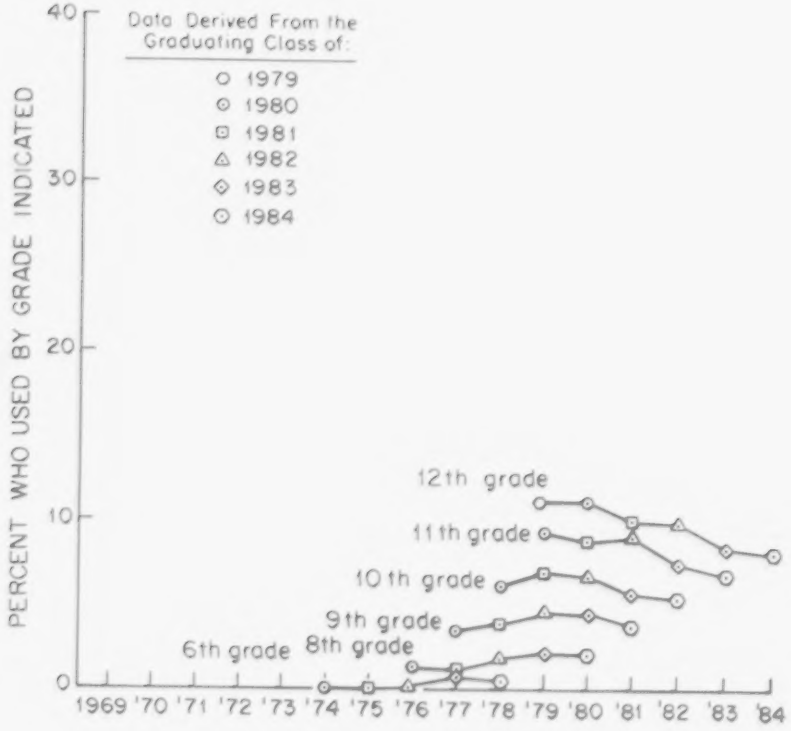

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FIGURE J-11

Sedatives: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

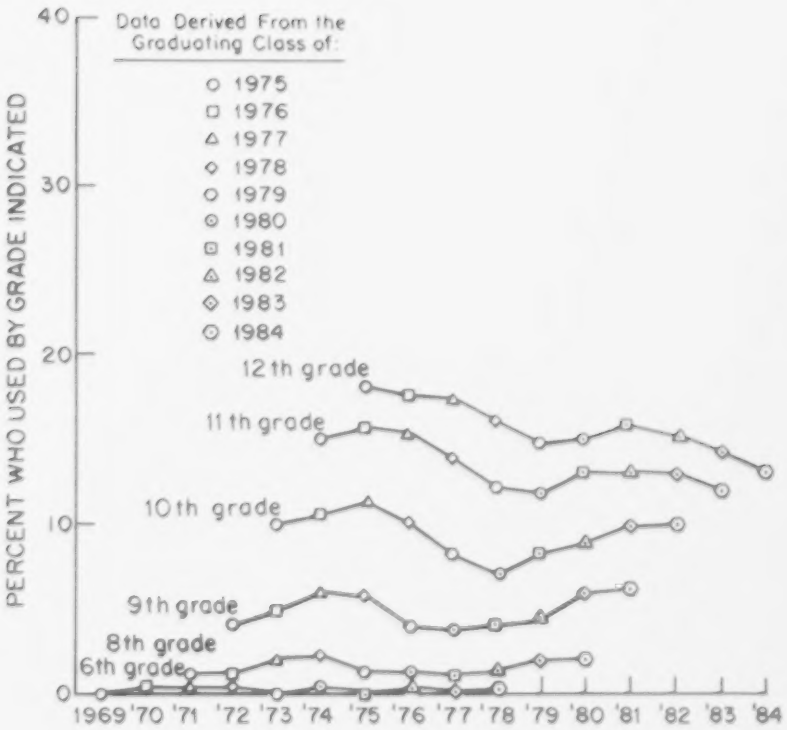

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FIGURE J-12

Barbiturates: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

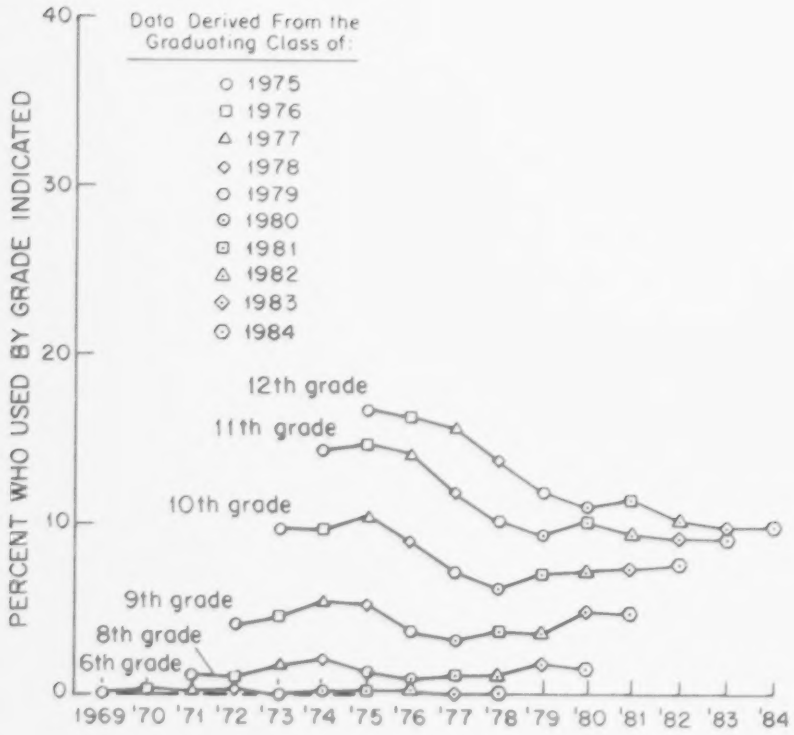

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FIGURE J-13

Methaqualone: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

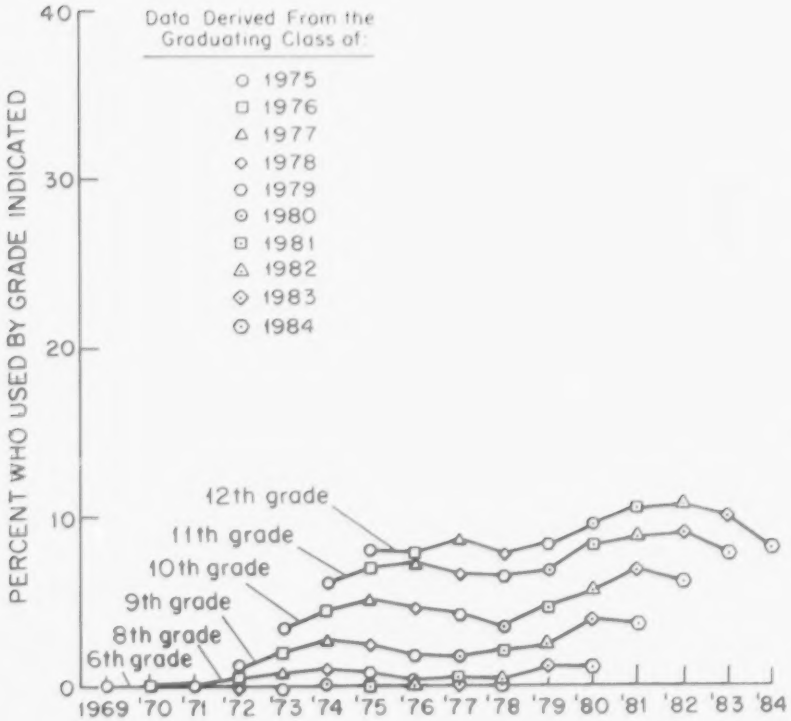

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FIGURE J-14

Tranquilizers: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

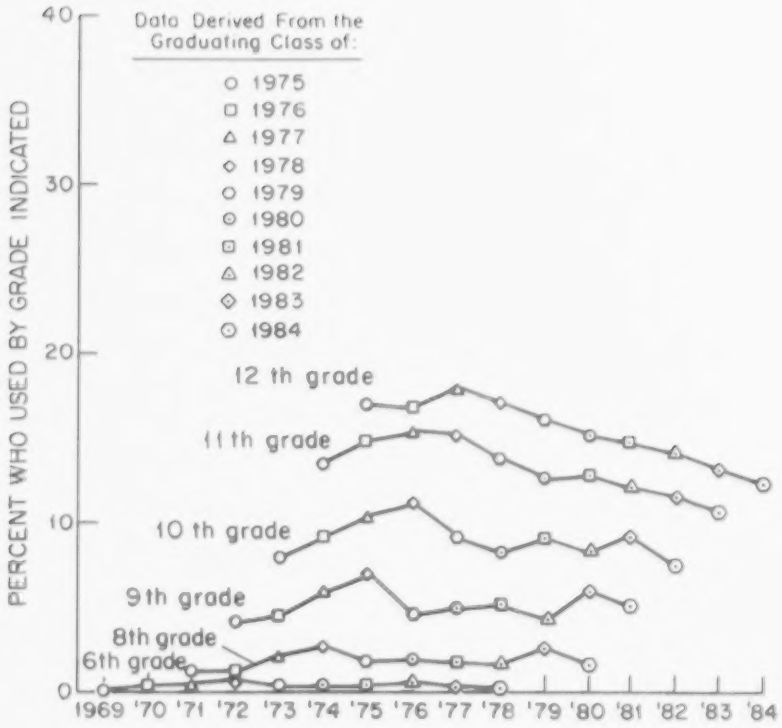

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FIGURE J-15

Heroin: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

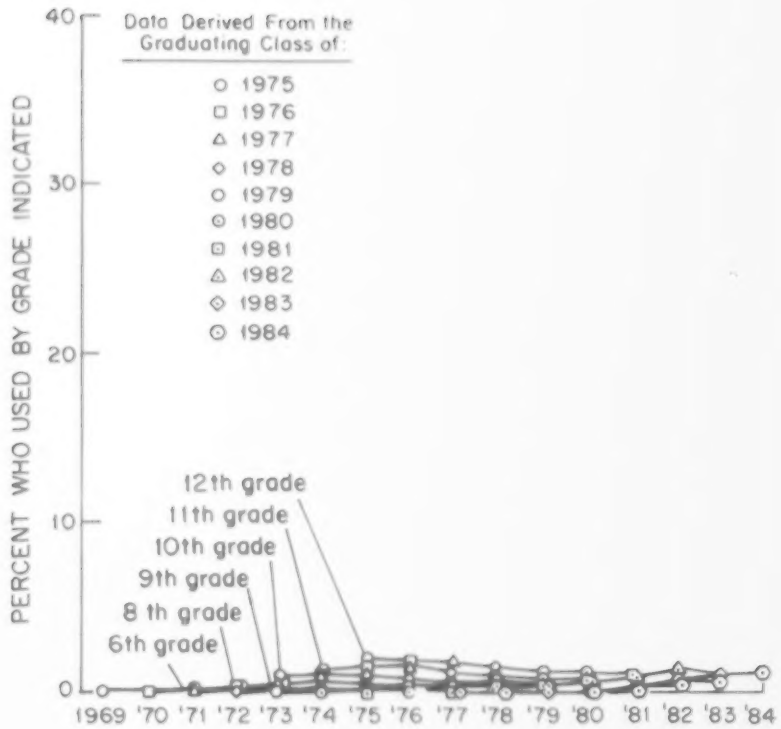

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FIGURE J-16

Other Opiates: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

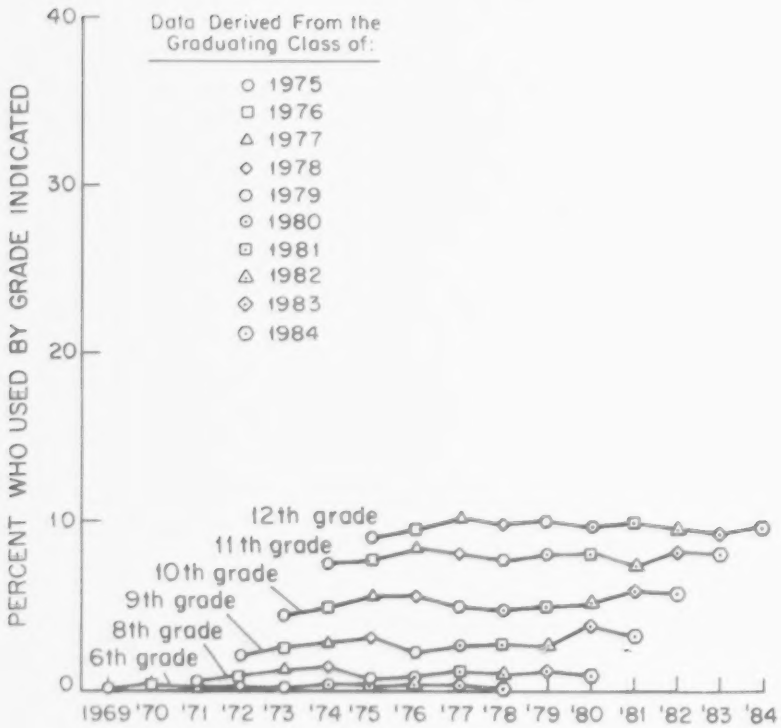

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FIGURE J-17

Cigarette Smoking on a Daily Basis: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

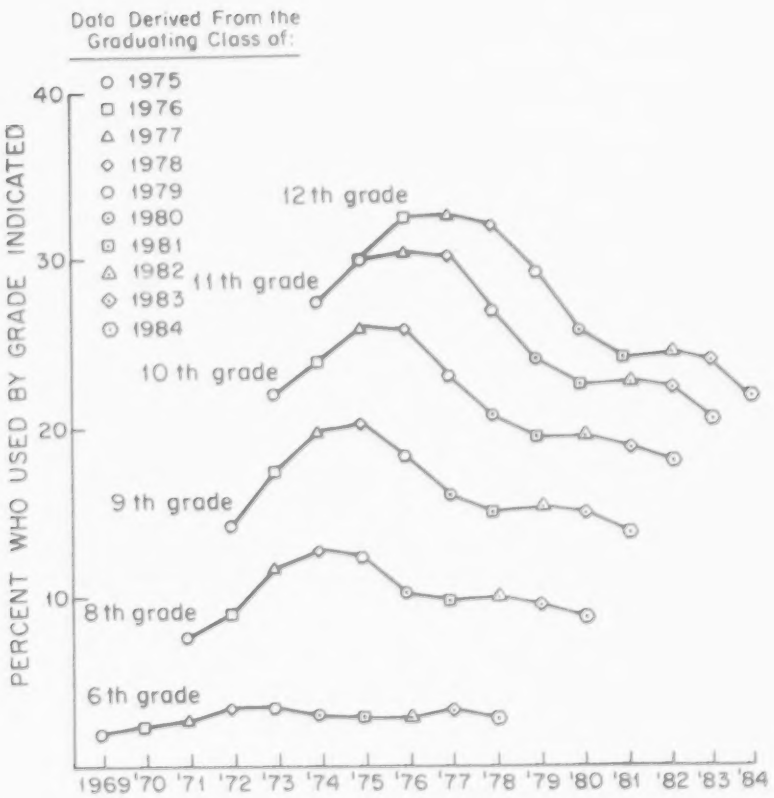

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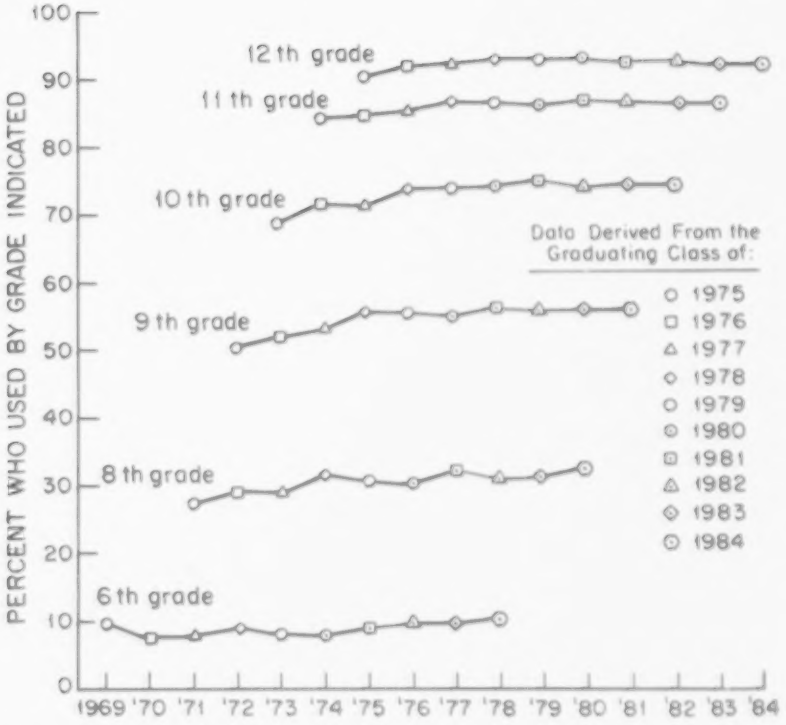
FIGURE J-18

Alcohol: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors



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DEGREE AND DURATION OF HIGHS

On one of the five questionnaire forms, seniors who report use of a drug during the prior twelve months are asked how long they usually stay high and how high they usually get on that drug. These measures were developed both to help characterize the drug-using event and to provide indirect measures of dose or quantity of drugs consumed.

- Figure K shows the proportion of 1984 seniors who say that they usually get "not at all" high, "a little" high, "moderately" high, or "very" high when they use a given type of drug. The percentages are based on all respondents who report use of the given drug class in the previous twelve months, and therefore each bar cumulates to 100%. The ordering from left to right is based on the percentage of users of each drug who report that they usually get "very" high. (The width of each bar is proportional to the percentage of all seniors having used the drug class in the previous year; this should serve as a reminder that even though a large percentage of users of a drug may get very high, they may represent only a small proportion of all seniors.)

- The drugs which usually result in intense highs are the hallucinogens (LSD and other hallucinogens), heroin and methaqualone (Quaaludes). (Actually, this question was omitted for heroin beginning in 1982, due to small numbers of cases available each year; but an averaging across earlier years indicated that it would rank very close to LSD.)

- Following closely are cocaine and marijuana, with roughly two-thirds of the users of each saying they usually get moderately high or very high when using the drug.

- The four major psychotherapeutic drug classes—barbiturates, opiates other than heroin, tranquilizers and stimulants—are less often used to get high; but substantial proportions of users (from 29% for tranquilizers to 42% for barbiturates) still say they usually get moderately or very high after taking these drugs.

- Relatively few of the many seniors using alcohol say that they usually get very high when drinking, although nearly half usually get at least moderately high. However, for a given individual we would expect more variability from occasion to occasion in the degree of intoxication achieved with alcohol than with most of

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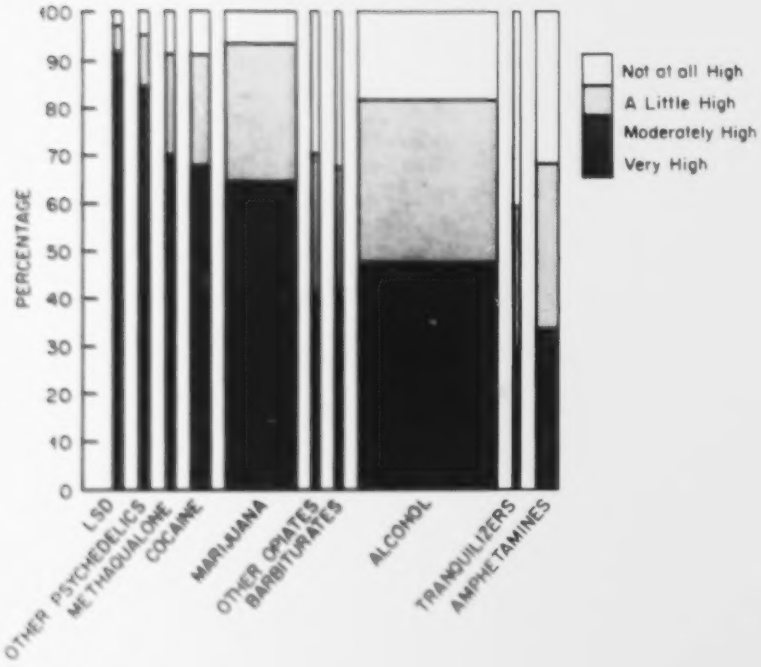
FIGURE K

Degree of High Attained by Recent Users



NOTE: The width of each bar is proportionate to the number of seniors reporting any use of each drug in the prior 12 months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

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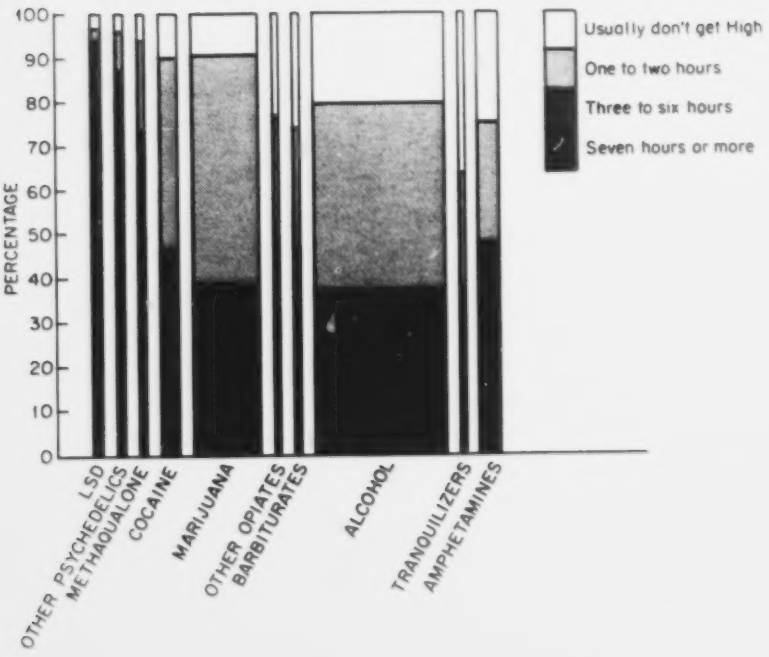
FIGURE L

Duration of High Attained by Recent Users



NOTE: The width of each bar is proportionate to the number of seniors reporting any use of each drug in the prior 12 months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

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the other drugs. Therefore, many drinkers surely get very high at least sometimes, even if that is not "usually" the case.

- Figure L presents the data on the duration of the highs usually obtained by users of each class of drugs. The drugs are arranged in the same order as for intensity of highs to permit an examination of the amount of correspondence between the degree and duration of highs.

- As can be seen in Figure L, those drugs which result in the most intense highs generally tend to result in the longest highs. For example, LSD, other hallucinogens, and methaqualone rank one through three respectively on both dimensions, with substantial proportions (from 17% to 65%) of the users of these drugs saying they usually stay high for seven hours or more. And alcohol ranks last on both dimensions; most users stay high for two hours or less.

- However, there is not a perfect correspondence between degree and duration of highs. The highs achieved with marijuana, although intense for many users, tend to be relatively short-lived in comparison with most other drugs. The majority of users usually stay high two hours or less, and the modal and median time is one to two hours.

- For cocaine users the modal high is one to two hours, though about as many stay high three or more hours.

- The modal and median duration of highs for barbiturates and stimulants are three to six hours. Users of opiates other than heroin and tranquilizers report highs of slightly shorter duration.

- In sum, the drugs vary considerably in both the duration and degree of the highs usually obtained with them, though most have a median duration of one to two hours. (These data obviously do not address the qualitative differences in the experiences of being "high".) Sizeable proportions of the users of all of these drugs report that they usually get high for at least three hours per occasion, and for a number of drugs—particularly the hallucinogens—appreciable proportions usually stay high for seven hours or more.

Trends in Degree and Duration of Highs

- There have been several important shifts over the last several years in the degree or duration of highs usually experienced by users of the various drugs.

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- The average duration of the highs reported by LSD users has declined somewhat since the mid 1970's. In 1975, 74% of the recent LSD users reported usually staying high seven hours or more; but since then this proportion has been around 60% to 65%. The subjectively reported degree of high usually obtained has also dropped slightly, from 79% of users saying "very high" in 1975 to 67% of users in 1984.

- For cocaine, the proportion who say they usually get high for only two hours or less has increased from 36% in 1977 to 54% in 1981, where it has remained since, reflecting a substantial shortening and then leveling in the average duration of highs. There has also been some modest decline in the average degree of high attained, between 1977 and 1981, again with little change since.

- For opiates other than heroin, there had been a fairly steady decline between 1975 and 1979 in both the intensity of the highs usually experienced and in the duration of those highs. In 1975, 39% said they usually got "very high" vs. 18% in 1979. The proportion usually staying high for seven or more hours dropped from 28% in 1975 to 13% in 1979. Between 1979 and 1983, the degree and duration of highs experienced with this class of drugs remained quite constant. In 1984, however, there was some further decline on both measures.

- Stimulants showed a substantial decrease between 1975 and 1981 in the proportion of recent users usually getting very high or moderately high (down from 60% in 1975 to 37% in 1984). Consistent with this, the proportion of users saying they simply "don't take them to get high" increased from 9% in 1975 to 20% by 1982. In addition, the average reported duration of stimulant highs has been declining; 41% of the 1975 users said they usually stayed high seven or more hours vs. only 17% of the 1981 users.* In 1982 the revised version of the question about stimulant use was introduced into the form containing subsequent questions on the degree and duration of highs. Based on

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*The questionnaire form containing the questions on degree and duration of highs is one on which the amphetamine questions were clarified in 1982, to eliminate the inappropriate inclusion of non-prescription stimulants. One might have expected this change to have increased the degree and duration of highs reported, given that real amphetamines would be expected to have greater psychological impact on the average; but the trends still continued downward that year.

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this revised form, there has been little subsequent change in the degree of highs atained, but there has been some continued drop in the duration of them.

- These substantial decreases in both the degree and the duration of highs strongly suggest that there has been some shift in the purposes for which stimulants are being used. An examination of data on self-reported reasons for use tends to confirm this conclusion. In essence, since 1979 there has been a relative decline in the social/recreational reasons for use and since 1976 there has been an increase in the frequency with which recent users mention "to lose weight" (from 26% in 1976 to 41% in 1984), "to get more energy" (from 56% to 69%), "to stay awake" (from 51% to 62%), and "to get through the day" (from 22% to 32%). "To get high," which in 1976 was the first ranked reason at 62% of recent amphetamine users, has dropped fairly steadily to 45% in 1984, making it the fourth ranked reason. Similarly, "to have a good time with my friends," which reached a high of 38% in 1979, dropped to around 30% in 1980, where it has remained since.

- There also, however, appears to have been at least some increase in recreational use as well, though clearly not as steep an increase as the trends in overall use might suggest. The data on exposure to people using amphetamines "to get high or for kicks", which will be discussed further in a section below, show a definite increase between 1976 and 1981 (there was a rise of 8% just between 1979 and 1981). There was no further increase in exposure to use for those purposes in 1982, however, suggesting that recreational use, as well as overall use, had leveled off, and in 1983 and 1984 there has been a gradual decrease in such exposure.

- In the last few years the degree and duration of highs usually achieved by barbiturate users and methaqualone users also has been decreasing.

- For marijuana there has been some general downward trending since 1978 in the degree of the highs usually obtained. In 1978, 73% of users said they usually got "moderately high" or "very high"—a figure which dropped to 64% by 1983, where it remained in 1984. There have also been some interesting changes taking place in the duration figures. Recall that most marijuana users say they usually stay high either one to two hours or three to six hours. Between 1975 and 1983 there was a steady shift in the proportions saying they stayed high three or more hours, 52% in 1975 vs. 35% in 1983; but there was no further drop in 1984. Until 1979 this shift could have been due almost

entirely to the fact that progressively more seniors were using marijuana; and the users in more recent classes, who would not have been users in earlier classes, probably tended to be relatively light users. (We deduce this from the fact that the percentage of all seniors reporting three to six hour highs remained relatively unchanged from 1975 to 1979, while the percentage of all seniors reporting only one to two hour highs increased steadily (from 16% in 1975 to 25% in 1979).

However, the overall prevalence rate did not increase over the past five years (annual prevalence actually dropped by 11%), but the shift toward shorter average highs continued. Thus we must attribute this recent shift to another factor, and the one which seems most likely is a general shift (even among the most marijuana-prone segment) toward a less frequent (or less intense) use of the drug. The drop in daily prevalence, over the last five years, which certainly is disproportionate to the drop in overall prevalence, is consistent with this interpretation. Also consistent is the fact that the average number of "joints" smoked per day (among those who reported any use in the prior month) has been dropping. In 1976, 49% of the current users of marijuana indicated that they averaged less than one "joint" per day in the prior 30 days, but by 1984 this proportion had risen to 64%. In sum, not only are fewer high school students now using marijuana, but those who are using seem to be using less frequently and to be taking smaller doses per occasion.

- There are no clearly discernible patterns in the intensity or duration of the highs being experienced with the remaining classes of drugs on which we have the relevant data—i.e., tranquilizers, hallucinogens other than LSD, and alcohol. (Data have not been collected for highs experienced in the use of inhalants, the nitrites specifically, or PCP specifically; and the number of admitted heroin users on a single questionnaire form is inadequate to estimate trends reliably.)

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ATTITUDES AND BELIEFS ABOUT DRUGS

This section presents the cross-time results for three sets of attitude and belief questions. One set concerns seniors' views about how harmful various kinds of drug use would be for the user, the second asks how much they personally disapprove of various kinds of drug use, and the third deals with attitudes on the legality of using various drugs under different conditions. (The next section covers the closely related topics of parents' and friends' attitudes about drugs, as the seniors perceive them.)

As the data below show, overall percentages disapproving various drugs, and the percentages believing their use to involve serious risk, both tend to parallel the percentages of actual users. Thus, for example, of the illicit drugs marijuana is the most frequently used and the least likely to be seen as risky to use. This and many other such parallels suggest that the individuals who use a drug are less likely to disapprove use of it or to view its use as involving risk. A series of individual-level analyses of these data confirms this conclusion: strong correlations exist between individual use of drugs and the various attitudes and beliefs about those drugs. Those seniors who use a given drug also are more likely to approve its use, downplay its risks, and report their own parents and friends as being at least somewhat more accepting of its use.

The attitudes and beliefs about drug use reported below have been changing during recent years, along with actual behavior. In particular, views about marijuana use, and legal sanctions against use, have shown important trends.

Beginning in 1979, scientists, policy makers, and in particular the electronic and printed media, have given considerable attention to the increasing levels of regular marijuana use among young people, and to the potential hazards associated with such use. As will be seen below, over the last six years attitudes about regular use of marijuana have shifted dramatically in a more conservative direction—a shift which coincides with a reversal in the previous rapid rise of daily use, and which very likely reflects the impact of this increased public attention.

Perceived Harmfulness of Drugs

Beliefs in 1984 about Harmfulness

- A substantial majority of high school seniors perceive regular use of any of the illicit drugs, as entailing "great risk" of harm for the user (see Table 13). Some 87% of the sample feel this way about heroin—the highest proportion for any of these drugs—while 84% associate great risk with using LSD. The proportions attributing great risk to cocaine, barbiturates, and amphetamines are 79%, 69%, and 67% respectively.

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- Regular use of cigarettes (i.e., one or more packs a day) is judged by nearly two-thirds (64%) as entailing a great risk of harm for the user.

- Regular use of marijuana is judged to involve great risk by 67% of the sample, slightly more than judge cigarette smoking to involve great risk, perhaps in part because marijuana can have dramatic short-term impacts on mood, behavior, self-control, etc., in addition to any long-term physiological impacts.

- Regular use of alcohol was more explicitly defined in several questions. Very few (23%) associate much risk of harm with having one or two drinks almost daily. Only four in every ten (42%) think there is great risk involved in having five or more drinks once or twice each weekend. Fully two-thirds (68%) think the user takes a great risk in consuming four or five drinks nearly every day, but this means that about a third of the students do not view this pattern of regular heavy drinking as entailing great risk.

- Compared with the above perceptions about the risks of regular use of each drug, many fewer respondents feel that a person runs a "great risk" of harm by simply trying the drug once or twice.

- Very few think there is much risk in using marijuana experimentally (15%) or even occasionally (23%).

- Experimental use of the other illicit drugs, however, is still viewed as risky by a substantial proportion. The percentage associating great risk with experimental use ranges from about 25% for amphetamines and barbiturates to 30% for heroin. Despite the amount of negative publicity cocaine use has received recently, only about a third (36%) see great risk involved in experimenting with it. This suggests one reason why so many young people have eventually gotten into trouble with this extremely dependence-producing drug.

- Practically no one (5%) believes there is much risk involved in trying an alcoholic beverage once or twice.

Trends in Perceived Harmfulness

- Several very important trends have been taking place in recent years in these beliefs about the dangers associated with using various drugs (see Table 13 and Figures M and N).

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TABLE 13

Trends in Perceived Harmfulness of Drugs

a. How much do you think people risk harming themselves (physically or in other ways), if they...	Percent saying "great risk"[a]										
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	'83-'84 Change
Try marijuana once or twice	15.1	11.4	9.5	8.1	9.4	10.0	13.0	11.5	12.7	14.7	+2.0
Smoke marijuana occasionally	18.1	15.0	13.4	12.4	13.5	14.7	19.1	18.3	20.6	22.6	+2.0
Smoke marijuana regularly	43.3	38.6	36.4	34.9	42.0	50.4	57.6	60.4	62.8	66.9	+4.1ss
Try LSD once or twice	69.4	65.7	63.2	62.7	61.6	63.9	63.5	66.9	66.7	65.4	+0.7
Take LSD regularly	81.4	80.8	79.1	81.1	82.4	83.0	83.5	83.5	83.2	83.8	+0.6
Try cocaine once or twice	42.6	39.1	35.6	33.2	31.5	31.3	32.1	32.8	33.0	35.7	+2.7
Take cocaine regularly	73.1	72.3	68.2	68.2	69.5	69.2	71.2	73.0	74.3	78.8	+4.5sss
Try heroin once or twice	60.1	58.9	55.8	52.9	50.4	52.1	52.9	51.1	50.8	49.8	-1.0
Take heroin occasionally	75.6	75.6	71.9	71.4	70.9	70.9	72.2	69.8	71.8	70.7	-1.1
Take heroin regularly	87.2	88.6	86.1	86.6	87.3	86.2	87.3	86.0	86.1	87.2	+1.1
Try amphetamines once or twice	33.6	33.4	30.8	29.9	29.7	29.7	26.4	25.3	24.7	25.4	+0.7
Take amphetamines regularly	69.0	67.3	66.6	67.1	69.9	69.1	66.1	64.7	64.8	67.1	+2.3
Try barbiturates once or twice	36.8	32.3	31.2	31.3	30.7	30.9	28.4	27.3	27.0	27.4	+0.4
Take barbiturates regularly	69.1	67.7	68.6	68.4	71.6	72.2	69.9	67.6	67.7	68.5	+0.8
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	5.3	4.8	4.1	3.6	4.1	3.8	4.6	3.5	4.2	4.6	+0.4
Take one or two drinks nearly every day	21.9	21.2	18.5	19.6	22.6	20.3	21.6	21.6	21.6	23.0	+1.4
Take four or five drinks nearly every day	63.3	61.0	62.9	63.1	66.2	63.7	64.5	63.5	66.8	68.4	+1.6
Have five or more drinks once or twice each weekend	37.8	37.0	34.7	34.3	34.9	35.9	36.3	36.0	38.6	41.7	+3.1s
Smoke one or more packs of cigarettes per day	51.3	56.4	58.4	59.0	63.0	63.7	63.3	60.5	61.2	63.8	+2.6
Approx. N =	(2804)	(3225)	(3570)	(3770)	(3250)	(3234)	(3604)	(3537)	(3305)	(3262)	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.

[a]Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, Drug unfamiliar.

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- One of the most important trends involves marijuana (Figure M). From 1975 through 1978 there had been a decline in the harmfulness perceived to be associated with all levels of marijuana use; but in 1979, for the first time, there was an increase in these proportions—an increase which preceded any appreciable downturn in use and which has continued fairly steadily since then. By far the most impressive increase has occurred for regular marijuana use, where there has been a full 32% jump in just five years in the proportion perceiving it as involving great risk—i.e., from 35% in 1978 to 67% in 1984. This is a dramatic change, which continued vigorously in 1984 with a 4% increment, and it has occurred during a period in which a substantial amount of scientific and media attention has been devoted to the potential dangers of heavy marijuana use. While there have been some upward shifts in concerns about the harmfulness of occasional, and even experimental, use, they have been nowhere nearly as large, though both did continue in 1984.

- There also has been an important increase over a longer period in the number who think pack-a-day cigarette smoking involves great risk to the user (from 51% in 1975 to 64% in 1980). This shift corresponded with, and to some degree preceded, the downturn in regular smoking found in this age group (see Figure M). But in 1981 this statistic showed no further increase (presaging the end of the decline in use), and the figures for 1982 and 1983 actually showed some reversal of that trend. However, in 1984 there is once again a resumption of the trend, with a nearly 3% jump in the proportion seeing great risk being associated with regular smoking. Nevertheless, what may be most important is that more than a third of these young people do not believe there is a great risk, despite all that is known today about the health consequences of cigarette smoking.

- For most of the other illicit drugs, the period from 1975 to 1979 marked a modest but consistent trend in the direction of fewer students associating much risk with experimental or occasional use of them (Table 13 and Figure N). Only for amphetamines and barbiturates has this trend continued beyond 1979, having stopped by 1984 in both cases. Otherwise, there has been little change over the last several years and, if anything, even a slight reversal of previous trends.

- The percentage who perceived great risk in trying cocaine once or twice dropped from 43% in 1975 to 31% in 1980, which generally corresponds to a period of rapidly increasing use. But perceived risk then began to inch upward over the next three years. The

FIGURE M

Trends in Perceived Harmfulness: Marijuana and Cigarettes

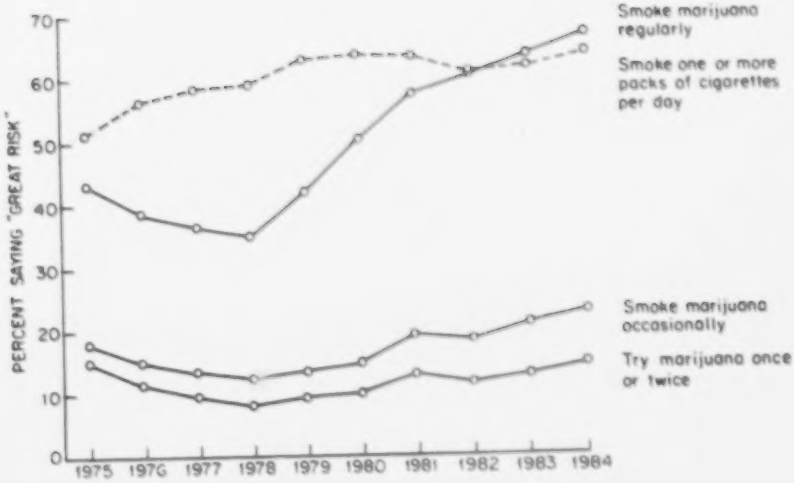

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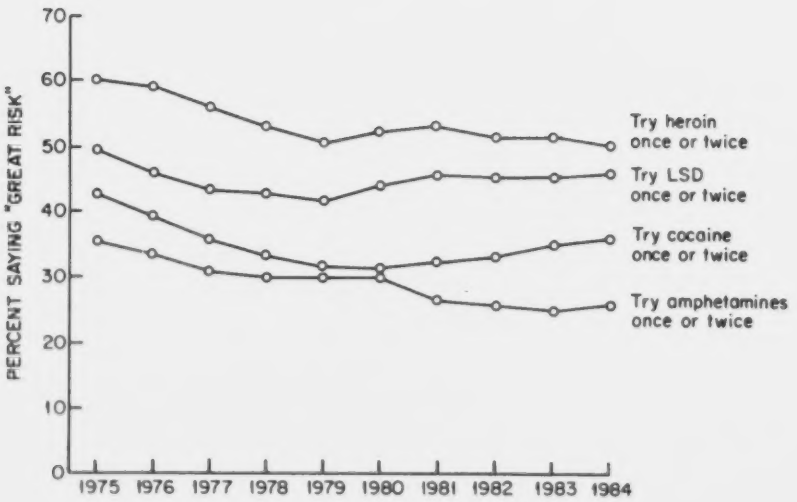
FIGURE N

Trends in Perceived Harmfulness: Other Drugs



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proportion seeing great risk in regular cocaine use also dropped somewhat from 1975 to 1977 and remained fairly level until 1980; but then rose 5% over the next three years before jumping a full 4.5% in 1984 alone. This sharp increase in perceived risk for cocaine in 1984 may well presage a downtown in future use, based on our previous experience with other drugs.

- In sum, there has been a sharp reversal in young people's concerns about regular marijuana use—one which began to occur in 1979—and since then there has been a more modest reversal in concerns about less frequent use of that drug and in concerns about experimenting with most other illicit drugs, as well. Also in 1984 there was a rise in the perceived risk of cocaine use, as well.

- Beliefs concerning the risk associated with alcohol use at various levels have remained largely unchanged over the past eight years. The one exception occurred with occasional heavy drinking, where the proportion perceiving great risk rose from a low of 35% in 1979 to 42% in 1984. Some 3% of this 7% change occurred in 1984 alone, the first year in which the reported prevalence of this type of drinking actually declined. Thus the gradual change in beliefs about the riskiness of this behavior preceded a change in use by several years—again suggesting the importance of these beliefs in determining behavior.

Personal Disapproval of Drug Use

A different set of questions was developed to try to measure any general moral sentiment attached to various types of drug use. The phrasing, "Do you disapprove of people (who are 18 or older) doing each of the following" was adopted.

Extent of Disapproval in 1984

- The great majority of these students do not condone regular use of any of the illicit drugs (see Table 14). Even regular marijuana use is disapproved by 85%, and regular use of each of the other illicits receives disapproval from between 94% and 98% of today's high school seniors.

- Smoking a pack (or more) of cigarettes per day receives the disapproval of 73% of the age group.

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TABLE 14

Trends in Proportions Disapproving of Drug Use

4. *Do you disapprove of people (who are 18 or older) doing each of the following?*[b]	Percent "disapproving"[a]										
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	'83-'84 Change
Try marijuana once or twice	47.0	38.4	33.4	33.4	36.2	39.0	40.0	43.5	46.3	49.3	+3.0$
Smoke marijuana occasionally	56.8	47.8	44.3	43.5	45.3	49.7	52.6	59.1	60.7	63.5	+2.8
Smoke marijuana regularly	71.9	69.5	65.5	67.5	69.2	74.6	77.4	80.6	82.5	84.7	+2.2
Try LSD once or twice	82.8	84.6	83.9	85.4	86.6	87.3	86.4	88.3	89.1	88.9	-0.2
Take LSD regularly	96.1	95.3	95.8	96.4	96.9	96.7	96.8	96.7	97.0	96.8	-0.2
Try cocaine once or twice	81.1	82.4	79.1	77.0	76.7	76.3	74.6	76.6	77.0	79.7	+2.7$
Take cocaine regularly	93.3	93.9	92.1	91.9	90.8	91.1	90.7	91.5	93.2	94.5	+1.3
Try heroin once or twice	91.5	92.6	92.5	92.0	93.4	93.5	93.5	94.6	94.3	94.0	-0.3
Take heroin occasionally	94.8	96.0	96.0	96.4	96.8	96.7	97.2	96.9	96.9	97.1	+0.2
Take heroin regularly	96.7	97.5	97.2	97.8	97.9	97.6	97.8	97.5	97.7	98.0	+0.3
Try amphetamines once or twice	74.8	75.1	74.2	74.8	75.1	73.4	71.1	72.6	72.3	72.8	+0.5
Take amphetamines regularly	92.1	92.8	92.5	93.5	94.4	93.0	91.7	92.0	92.6	93.6	+1.0
Try barbiturates once or twice	77.7	81.3	81.1	82.4	84.0	83.9	82.4	84.4	83.1	84.1	+1.0
Take barbiturates regularly	93.3	93.6	93.0	94.3	95.2	95.4	96.2	94.4	95.1	95.1	0.0
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	21.6	18.2	15.6	15.6	15.8	16.0	17.2	18.2	18.4	17.4	-1.0
Take one or two drinks nearly every day	67.6	68.9	66.8	67.7	68.3	69.0	69.1	69.9	68.9	72.9	+4.0$
Take four or five drinks nearly every day	88.7	90.7	88.4	90.2	91.7	90.8	91.8	90.9	90.0	91.0	+1.0
Have five or more drinks once or twice each weekend	60.3	58.6	57.4	56.2	56.7	55.6	55.3	58.8	56.4	59.6	+3.2$
Smoke one or more packs of cigarettes per day	67.5	65.9	66.4	67.0	70.3	70.8	69.8	69.4	70.8	73.0	+2.2
Approx. N =	(2677)	(3234)	(3382)	(3686)	(3221)	(3261)	(3610)	(3651)	(3341)	(3234)	

NOTE: Level of significance of difference between the two most recent classes: $ = .05, $$ = .01, $$$ = .001.

[a]Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

[b]The 1975 question asked about people who are "20 or older."

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- Drinking at the rate of one or two drinks daily also receives disapproval from nearly 73% of the seniors. A curious finding is that weekend binge drinking (five or more drinks once or twice each weekend) is acceptable to more seniors than is moderate daily drinking. While only 60% disapprove of having five or more drinks once or twice a weekend, 73% disapprove of having one or two drinks daily. This is in spite of the fact that they associate greater risk with weekend binge drinking (42%) than with the daily drinking (23%). One likely explanation for these seemingly inconsistent findings may be the fact that a greater proportion of this age group are themselves weekend binge drinkers rather than regular daily drinkers. They have thus expressed attitudes accepting of their own behavior, even though they may be somewhat inconsistent with their beliefs about possible consequences.

- For each of the drugs included in the question, fewer people indicate disapproval of experimental or occasional use than of regular use, as would be expected. The differences are not great, however, for the illicit drugs other than marijuana. For example, 80% disapprove experimenting with cocaine vs. 95% who disapprove its regular use.

- For marijuana, however, the rate of disapproval varies substantially for different usage habits. Less than half of all seniors (49%) disapprove trying marijuana, yet the great majority (85%) disapprove regular use.

Trends in Disapproval

- Between 1975 and 1977 there occurred a substantial decrease in disapproval of marijuana use at any level of frequency (see Table 14 and Figure O). About 14% fewer seniors in the class of 1977 (compared with the class of 1975) disapproved of experimenting, 11% fewer disapproved of occasional use, and 6% fewer disapproved of regular use. Since 1977, however, there has been a substantial reversal of that trend, with disapproval of experimental use having risen by 16%, disapproval of occasional use by 19%, and disapproval of regular use by 19%. These changes are continuing again this year. See Figure O.

- Until 1980 the proportion of seniors who disapproved trying amphetamines had remained extremely stable (at 75%). In 1981 there was some drop, but it did not continue in the years since.

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TABLE 15

Trends in Attitudes Regarding Legality of Drug Use

6. *Do you think that people (who are 18 or older) should be prohibited by law from doing each of the following?*[b]	Percent saying "yes"[a]										
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	'83-'84 change
Smoke marijuana in private	32.8	27.5	26.8	25.4	28.0	28.9	35.4	36.6	37.8	41.6	+3.8s
Smoke marijuana in public places	63.1	59.1	58.7	59.5	61.8	66.1	67.9	72.8	73.6	75.2	+1.6
Take LSD in private	67.2	65.1	63.3	62.7	62.4	65.8	62.6	67.1	66.7	67.9	+1.2
Take LSD in public places	85.8	81.9	79.3	80.7	81.5	82.8	80.7	82.1	82.8	82.4	-0.4
Take heroin in private	76.3	72.4	69.2	68.8	68.5	70.3	68.8	69.3	69.7	69.8	+0.1
Take heroin in public places	90.1	86.8	81.0	82.5	84.0	83.8	82.4	82.5	83.7	83.4	-0.3
Take amphetamines or barbiturates in private	57.2	53.5	52.8	52.2	53.4	54.1	52.0	53.5	52.8	54.4	+1.6
Take amphetamines or barbiturates in public places	79.6	76.1	73.7	75.8	77.3	76.1	74.2	75.5	76.7	76.8	+0.1
Get drunk in private	14.1	15.6	18.6	17.4	16.8	16.7	19.6	19.4	19.9	19.7	-0.2
Get drunk in public places	55.7	50.7	49.0	50.3	50.4	48.3	49.1	50.7	52.2	51.1	-1.1
Smoke cigarettes in certain specified public places	NA	NA	42.0	42.2	43.1	42.8	43.0	42.0	40.5	39.2	-1.3
Approx. N =	(2620)	(3265)	(3629)	(3783)	(3288)	(3224)	(3611)	(3627)	(3315)	(3236)	

NOTE: Level of significance of difference between the two most recent classes:
s = .05, ss = .01, sss = .001.

[a]Answer alternatives were: (1) No, (2) Not sure, and (3) Yes.

[b]The 1975 question asked about people who are "20 or older."

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- During the late 1970's personal disapproval for experimenting with barbiturates had been increasing (from 78% in 1975 to 84% in 1979). Since then it has remained relatively stable.

- Over recent years disapproval for regular cigarette smoking had been increasing modestly (from 66% in 1976 to 71% in 1980). It then remained fairly stable through 1983 before resuming its increase in 1984 (when actual use resumed its decline).

- Concurrent with the years of increase in actual cocaine use, disapproval of experimental use of cocaine had declined somewhat, from a high of 82% in 1976 down to 75% in 1979. It then leveled for four years before showing a statistically significant increase in 1984.

- There has been relatively little change in attitudes regarding alcohol use, with two exceptions. The small minority who disapprove of trying alcohol once or twice (22% in 1975) had become even smaller by 1977 (16%). It has remained relatively unchanged since. There was also a slight softening of attitudes regarding weekend binge drinking, with disapproval dropping from 60% in 1975 to 56% in 1978. For the next five years there was relative stability until a significant increase in disapproval was observed in 1984. In 1984 there was also a significant increase for the first time in the disapproval of moderate daily drinking.

Attitudes Regarding the Legality of Drug Use

Since the legal restraints on drug use appeared likely to be in a state of flux for some time, we decided at the beginning of the study to measure attitudes about legal sanctions. Table 15 presents a statement of one set of general questions on this subject along with the answers provided by each senior class. The set lists a sampling of illicit and licit drugs and asks whether their use should be prohibited by law. A distinction is consistently made between use in public and use in private—a distinction which proved quite important in the results.

Attitudes in 1984

- Most (75%) favor legally prohibiting marijuana use in public places, despite the fact that the majority have used marijuana themselves; but considerably fewer (42%) feel that way about marijuana use in private.

- In addition, the great majority believe that the use in public of other illicit drugs than marijuana should be prohibited by law (e.g., 77% in the case of amphetamines and barbiturates, 83% for heroin).

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TABLE 16

Trends in Attitudes Regarding Marijuana Laws

(Entries are percentages)

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984
a. There has been a great deal of public debate about whether marijuana use should be legal. Which of the following policies would you favor?										
Using marijuana should be entirely legal	27.3	32.6	33.6	32.9	32.1	26.3	23.1	20.5	18.7	18.6
It should be a minor violation like a parking ticket but not a crime	25.1	29.0	31.4	30.2	30.1	30.9	29.3	28.2	26.3	23.6
It should be a crime	30.5	25.4	21.7	22.2	26.5	26.4	32.1	36.7	36.7	40.6
Don't know	16.8	13.0	13.4	14.6	13.4	16.4	15.4	17.1	18.1	17.2
N =	(2617)	(3264)	(3622)	(3721)	(3278)	(3211)	(3593)	(3613)	(3501)	(3230)
b. If it were legal for people to USE marijuana, should it also be legal to SELL marijuana?										
No	27.8	23.0	22.5	21.8	22.9	25.0	27.7	29.3	27.6	30.9
Yes, but only to adults	37.1	43.8	42.1	43.6	43.2	41.8	40.6	40.2	42.6	43.8
Yes, to anyone	16.2	13.3	12.7	12.0	11.3	9.6	10.5	10.7	10.5	10.6
Don't know	18.9	13.9	12.7	12.6	12.6	13.6	13.2	13.8	14.6	12.8
N =	(2616)	(3279)	(3628)	(3719)	(3280)	(3210)	(3599)	(3619)	(3500)	(3222)
c. If marijuana were legal to use and legally available, which of the following would you be most likely to do?										
Not use it, even if it were legal and available	55.2	50.4	50.6	48.4	50.2	53.3	55.2	60.0	60.1	62.0
Try it	8.2	8.1	7.0	7.1	6.1	6.8	6.0	6.3	7.2	6.6
Use it about as often as I do now	22.7	24.7	26.8	30.9	29.4	27.3	24.8	21.7	19.8	19.1
Use it more often than I do now	6.0	7.1	7.4	6.3	6.6	6.2	6.7	5.8	6.9	6.7
Use it less than I do now	1.3	1.3	1.3	2.7	2.3	2.6	2.3	2.2	1.5	1.6
Don't know	8.5	8.1	6.6	6.7	6.1	5.9	6.9	6.0	6.6	6.0
N =	(2602)	(3272)	(3625)	(3711)	(3277)	(3215)	(3598)	(3618)	(3496)	(3223)

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- Fully 39% believe that cigarette smoking in public places should be prohibited by law. More think getting drunk in such places should be prohibited (52%).

- For all drugs, substantially fewer students believe that use in private settings should be illegal.

Trends in These Attitudes

- From 1975 through 1977 there was a modest decline (from 4% to 9%, depending on the substance) in the proportion of seniors who favored legal prohibition of private use of any of the illicit drugs. Now, however, the evidence suggests that these downward trends have halted and in some cases reversed.

- Over the past five years (from 1979 to 1984) there has been a sharp jump in the proportion favoring legal prohibition of marijuana use, either in private (up from 28% to 42%) or in public (up from 62% to 75%).

The Legal Status of Marijuana

Another set of questions goes into more detail about what legal sanctions, if any, students think should be attached to the use and sale of marijuana. Respondents also are asked to guess how they would be likely to react to legalized use and sale of the drug. While the answers to such a question must be interpreted cautiously, we think it worth exploring how young people think they might respond to such changes in the law. (The questions and responses are shown in Table 16.) A special study of the effects of marijuana decriminalization at the state level, conducted as part of the Monitoring the Future series, suggests that in the aggregate their predictions about how they would react proved relatively accurate.*

Attitudes and Predicted Response to Legalization: 1984

- Only about one-fifth of all seniors believe marijuana use should be entirely legal (19%). About one out of four (24%) feel it should be treated as a minor violation—like a parking ticket—but not as a crime. Another 17% indicate no opinion, leaving about two-fifths (41%) who feel it still should be treated as a crime.

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*See Johnston, L.D., O'Malley, P.M., and Bachman, J.G. Marijuana decriminalization: The impact on youth, 1975-1980 (Monitoring the Future Occasional Paper no. 13). Ann Arbor: Institute for Social Research, 1981, 85 pp.

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- Asked whether they thought it should be legal to sell marijuana if it were legal to use it, a majority (56%) said "yes." However, nearly all of these respondents would permit sale only to adults, thus suggesting more conservatism on this subject than might generally be supposed.

- High school seniors predict that they would be little affected by the legalization of either the sale or the use of marijuana. Fully 62% of the respondents say that they would not use the drug even if it were legal to buy and use, and another 21% indicate they would use it about as often as they do now, or less. Only 5% say they would use it more often than at present and only another 7% think they would try it. Some 6% say they do not know how they would react. The special study of the effects of decriminalization at the state level (which falls short of the hypothetical situation posited in this question) revealed no evidence of any impact on the use of marijuana, nor even on attitudes and beliefs concerning its use.

Trends in Attitudes and Predicted Responses

- Between 1976 and 1979 seniors' preferences for decriminalization or legalization remained fairly constant; but in the past five years there has been a sharp drop in the proportion favoring outright legalization (down from 32% in 1979 to 19% in 1984), while there was a corresponding increase in the proportion saying marijuana use should be a crime.

- Also reflecting the recent increased conservatism about marijuana, somewhat fewer now would support legalized sale even if use were to be made legal (down from 65% in 1979 to 56% in 1984).

- The predictions about personal marijuana use, if sale and use were legalized, have been quite similar for all high school classes. The slight shifts being observed are mostly attributable to the changing proportions of seniors who actually use marijuana.

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THE SOCIAL MILIEU

The preceding section dealt with seniors' attitudes about various forms of drug use. Attitudes about drugs, as well as drug-related behaviors, obviously do not occur in a social vacuum. Drugs are discussed in the media; they are a topic of considerable interest and conversation among young people; they are also a matter of much concern to parents, concern which often is strongly communicated to their children. Young people are known to be affected by the actual drug-taking behaviors of their friends and acquaintances, as well as by the availability of the various drugs. This section presents data on several of these relevant aspects of the social milieu.

We begin with two sets of questions about parental and peer attitudes, questions which closely parallel the questions about respondents' own attitudes about drug use, discussed in the preceding section. Since parental attitudes are now included in the survey only intermittently, those discussed here are based on the 1979 results.

Perceived Attitudes of Parents and Friends

Perceptions of Parental Attitudes

- Based on our most recent (1979) measures of perceived parental attitudes, a large majority of seniors feel that their parents would disapprove or strongly disapprove of their exhibiting any of the drug use behaviors shown in Table 17. (The data for the perceived parental attitudes are not given in tabular form, but are displayed in Figures O and P.)

- Over 97% of seniors said that their parents would disapprove or strongly disapprove of their smoking marijuana regularly, even trying LSD or amphetamines, or having four or five drinks every day. (Although the questions did not include more frequent use of LSD or amphetamines, or any use of heroin, it is obvious that if such behaviors were included in the list virtually all seniors would indicate parental disapproval.)

- While respondents feel that marijuana use would receive the least parental disapproval of all of the illicit drugs, even experimenting with it still is seen as a parentally disapproved activity by the great majority of the seniors (85%). Assuming that the students are generally correct about their parents' attitudes, these results clearly show that there remains a rather massive generational difference of opinion about this drug.

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TABLE 17

Trends in Proportion of Friends Disapproving of Drug Use

c. How do you think your close friends feel (or would feel) about you...	Adjustment Factor	Percent saying friends disapprove[a]										
		Class of 1975[b]	Class of 1976	Class of 1977[b]	Class of 1978	Class of 1979[b]	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	'83-'84 change
Trying marijuana once or twice	[illegible]	[illegible]	NA	[illegible]	NA	[illegible]	42.6	46.4	50.3	52.0	54.1	+2.1
Smoking marijuana occasionally	+[illegible]	[illegible]	NA	[illegible]	NA	[illegible]	50.6	55.9	57.4	59.9	62.9	+3.0
Smoking marijuana regularly	+[illegible]	[illegible]	NA	[illegible]	NA	[illegible]	72.0	75.0	74.7	77.6	79.2	+1.6
Trying LSD once or twice	+[illegible]	[illegible]	NA	[illegible]	NA	[illegible]	87.4	86.5	87.8	87.8	87.6	-0.2
Trying an amphetamine once or twice	+[illegible]	[illegible]	NA	[illegible]	NA	[illegible]	78.9	74.4	75.7	76.8	77.0	+0.2
Taking one or two drinks nearly every day	+[illegible]	[illegible]	NA	[illegible]	NA	[illegible]	70.5	79.5	71.9	71.7	73.6	+1.9
Taking four or five drinks every day	+[illegible]	[illegible]	NA	[illegible]	NA	[illegible]	87.9	86.4	86.6	86.0	86.1	+0.1
Having five or more drinks once or twice every weekend	+[illegible]	[illegible]	NA	[illegible]	NA	[illegible]	50.6	50.3	51.2	50.6	51.3	+0.7
Smoking one or more packs of cigarettes per day	+[illegible]	[illegible]	NA	[illegible]	NA	[illegible]	74.4	73.8	70.3	72.2	73.9	+1.7
Approx. N =		(2488)	(NA)	(2971)	(NA)	(2716)	(2766)	(3120)	(3024)	(2722)	(2721)	

NOTE: NA indicates question not asked.

[a]Answer alternatives were: (1) Not disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

[b]These figures have been adjusted by the factors reported in the first column because of lack of comparability of question-context among administrations. (See text for discussion.)

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- Also likely to be perceived as rating high parental disapproval (around 92% disapproval) are occasional marijuana use, taking one or two drinks nearly every day, and pack-a-day cigarette smoking.

- Slightly lower proportions of seniors (85%) think their parents would disapprove of their having five or more drinks once or twice every weekend. This happened to be exactly the same percentage as said that their parents would disapprove of simply experimenting with marijuana.

- There is no reason to think that parental attitudes have softened in the intervening period. If anything the opposite seems more likely to be the case, given the rising public concern about marijuana and cocaine and the burgeoning parents' movement against drugs.

Current Perceptions of Friends' Attitudes

- A parallel set of questions asked respondents to estimate their friends' attitudes about drug use (Table 17). These questions ask "How do you think your close friends feel (or would feel) about you ...." The highest levels of disapproval for experimenting with a drug are associated with trying LSD (88%) and trying an amphetamine (77%). Presumably, if heroin were on the list it would receive the highest peer disapproval; and, judging from respondents' own attitudes, barbiturates and cocaine would be more unpopular among peers than amphetamines.

- Even experimenting with marijuana is now "out" with most seniors' friends; and a substantial majority think their friends would disapprove if they smoked marijuana regularly (79%).

- About three-quarters of all seniors think they would face peer disapproval if they smoked a pack or more of cigarettes daily (74%).

- While heavy drinking on weekends is judged by half (51%) to be disapproved by their friends, most (74%) think consumption of one or two drinks daily would be disapproved. The great majority (86%) would face the disapproval of their friends if they engaged in heavy daily drinking.

- In sum, peer norms differ considerably for the various drugs and for varying degrees of involvement with those drugs, but overall they tend to be quite conservative. The great majority of seniors have friendship

circles which do not condone use of the illicit drugs other than marijuana, and over three-fourths feel that their friends would disapprove of regular marijuana use. In fact, over half of them now believe their friends would disapprove their even trying marijuana.

A Comparison of the Attitudes of Parents, Peers, and Respondents Themselves

- A comparison of the perceptions of friends' disapproval with perceptions of parents' disapproval shows several interesting findings.

- First there is rather little variability among different students in their perceptions of their parents' attitudes: on any of the drug behaviors listed nearly all say their parents would disapprove. Nor is there much variability among the different drugs in perceived parental attitudes. Peer norms vary much more from drug to drug. The net effect of these facts is likely to be that peer norms have a much greater chance of explaining variability in the respondent's own individual attitudes or use than parental norms, simply because the peer norms vary more.

- Despite there being less variability in parental attitudes, the ordering of drug use behaviors is much the same for them as for peers (e.g., among the illicit drugs asked about, the highest frequencies of perceived disapproval are for trying LSD, while the lowest frequencies are for trying marijuana).

- A comparison with the seniors' own attitudes regarding drug use (see Figures O and P) reveals that on the average they are much more in accord with their peers than with their parents. The differences between seniors' own disapproval ratings and those attributed to their parents tend to be large, with parents seen as more conservative overall in relation to every drug, licit or illicit. The largest difference occurs in the case of marijuana experimentation, where only 49% say they disapprove but 85% said in 1979 that their parents would.

Trends in Perceptions of Parents' and Friends' Views

- Several important changes in the perceived attitudes of others have been taking place recently—and particularly among peers. These shifts are presented graphically in Figures O and P. As can be seen in those figures, adjusted (dotted) trend lines have been introduced before 1980. This was done because we

discovered that the deletion in 1980 of the questions about parents' attitudes—which up until then had immediately preceded friends' attitudes in the questionnaire—removed an artifactual depression of the answers on friends' use, a phenomenon known as a question-context effect. This effect was particularly evident in the trend lines dealing with alcohol use, where an abrupt upward shift occurred in 1980 in otherwise smooth lines. It appears that when questions about parents' attitudes were present, respondents tended to understate peer disapproval in order to emphasize the difference in attitudes between their parents and their peers. In the adjusted lines, we have attempted to correct for that artifactual depression in the 1975, 1977, and 1979 scores.* We think the adjusted trend lines give a more accurate picture of the change taking place. For some reason, the question-context effect seems to have more influence on the questions dealing with cigarettes and alcohol than on those dealing with illicit drugs.

- For each level of marijuana use—trying once or twice, occasional use, regular use—there had been a drop in perceived disapproval for both parents and friends up until 1977 or 1978. We know from our other findings that these perceptions correctly reflected actual shifts in the attitudes of their peer groups—that is, that acceptance of marijuana was in fact increasing among seniors (see Figure O). There is little reason to suppose such perceptions are less accurate in reflecting shifts in parents' attitudes. Therefore, we conclude that the social norms regarding marijuana use among adolescents had been relaxing before 1979.

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*The correction evolved as follows: We assumed that a more accurate estimate of the true change between 1979 and 1980 could be obtained by taking an average of the changes observed in the year prior and the year subsequent, rather than by taking the observed change (which we knew to contain the effect of a change in question content). We thus calculated an adjusted 1979-1980 change score by taking an average of one half the 1977-1979 change score (our best estimate of the 1978-79 change) plus the 1980-1981 change score. This estimated change score was then subtracted from the observed change score for 1979-1980, the difference being our estimate of the amount by which peer disapproval of the behavior in question was being understated because of the context in which the questions occurred prior to 1980. The 1975, 1977, and 1979 observations were then adjusted upward by the amount of that correction factor. (Table 17 shows the correction factors in the first column.)

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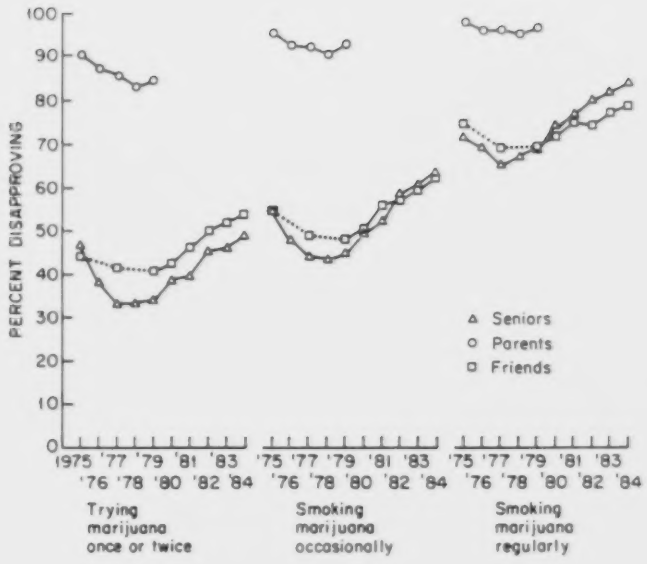
FIGURE O

Trends in Disapproval of Illicit Drug Use
Seniors, Parents, and Peers



NOTE: Points connected by dotted lines have been adjusted because of lack of comparability of question-context among administrations. (See text for discussion.)

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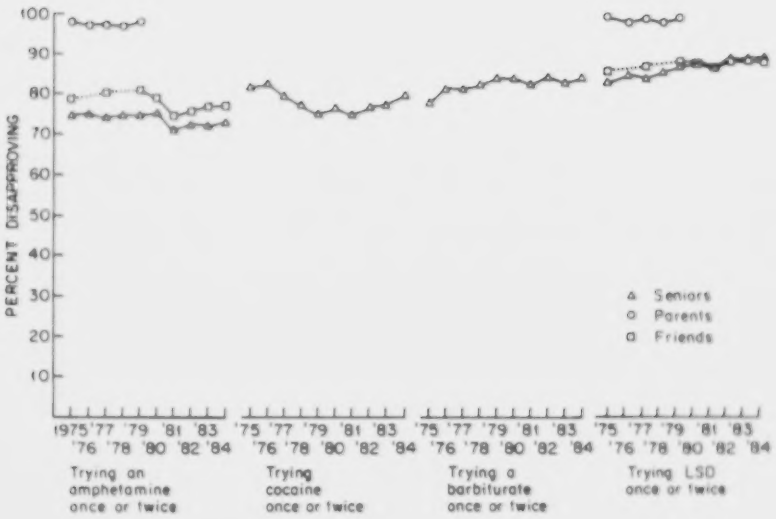
FIGURE O (cont.)

Trends in Disapproval of Illicit Drug Use
Seniors, Parents, and Peers



NOTE: Points connected by dotted lines have been adjusted because of lack of comparability of question-context among administrations. (See text for discussion.)

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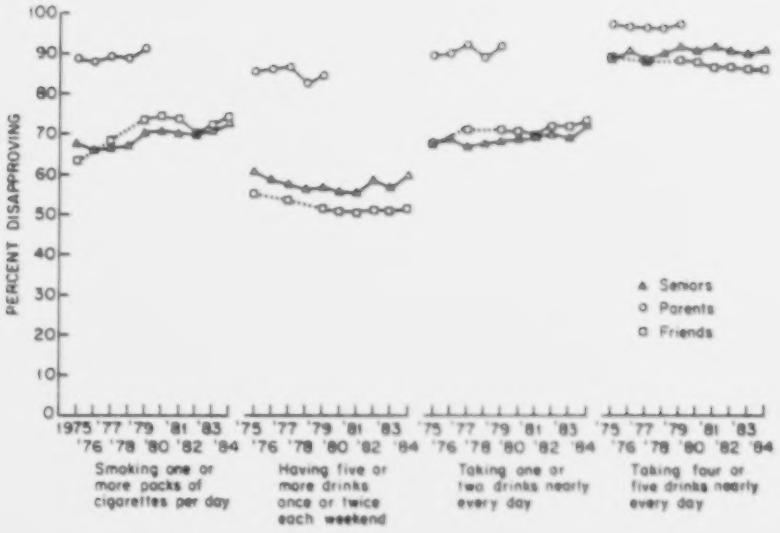
FIGURE P

Trends in Disapproval of Licit Drug Use
Seniors, Parents, and Peers



NOTE: Points connected by dotted lines have been adjusted because of lack of comparability of question-context among administrations. (See text for discussion.)

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However, consistent with the seniors' reports about their own attitudes, there has been a sharp reversal in peer norms, regarding all levels of marijuana use and it continued in 1984.

- Until 1981 there had been relatively little change in either self-reported or perceived peer attitudes toward amphetamine use, but in 1981 both measures showed significant and parallel dips in disapproval (as use rose sharply). Since then disapproval has been easing back up toward the earlier levels.

- Perceived parental norms regarding most drugs other than marijuana showed little or no change (between 1975 and 1979, where data are available).

- Peer disapproval of LSD use has been inching upward since 1975.

- One of the larger changes in perceived peer norms has occurred in relation to regular cigarette smoking. The proportion of seniors saying that their friends would disapprove of them smoking a pack-a-day or more rose from 64% (adjusted version) in 1975 to 74% in 1980. In the several years following, peer disapproval eased back a percent or two, only to begin rising again in 1984.

- For alcohol, perceived peer norms have moved pretty much in parallel with seniors' statements about their personal disapproval. Heavy daily drinking is seen as remaining disapproved by the great majority. Weekend binge drinking showed some modest decline in disapproval up through 1980. Since then it has remained virtually level.

Exposure to Drug Use by Friends and Others

It is generally agreed that much of youthful drug use is initiated through a peer social-learning process; and research has shown a high correlation between an individual's illicit drug use and that of his or her friends. Such a correlation can, and probably does, reflect several different causal patterns: (a) a person with friends who use a drug will be more likely to try the drug; (b) conversely, the individual who is already using a drug will be likely to introduce friends to the experience; and (c) one who is already a user is more likely to establish friendships with others who also are users.

Given the potential importance of exposure to drug use by others, we felt it would be useful to monitor seniors' association with others taking drugs, as well as seniors' perceptions about the extent to which their friends use drugs. Two sets of questions, each covering all or nearly all of the categories of drug use treated in this report, asked seniors to

indicate (a) how often during the past twelve months they were around people taking each of the drugs to get high or for "kicks," and (b) what proportion of their own friends use each of the drugs. (The questions dealing with friends' use are shown in Table 18. The data dealing with direct exposure to use may be found in Table 19.) Obviously, responses to these two questions are highly correlated with the respondents' own drug use; thus, for example, seniors who have recently used marijuana are much more likely to report that they have been around others getting high on marijuana, and that most of their friends use it.

Exposure to Drug Use in 1984

- A comparison of responses about friends' use, and about being around people in the last twelve months who were using various drugs to get high, reveals a high degree of correspondence between these two indicators of exposure. For each drug, the proportion of respondents saying "none" of their friends use it is fairly close to the proportion who say that during the last twelve months they have not been around anyone who was using that drug to get high. Similarly, the proportion saying they are "often" around people getting high on a given drug is roughly the same as the proportion reporting that "most" or "all" of their friends use that drug.

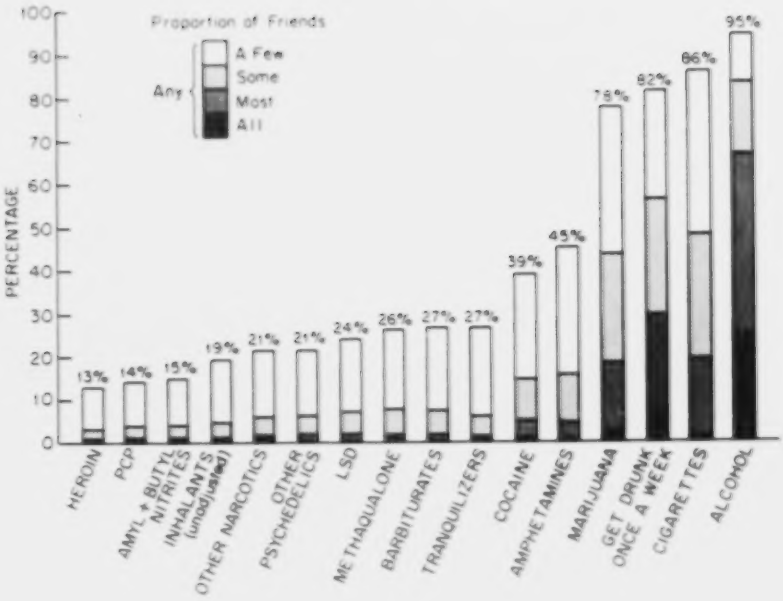
- Reports of exposure and friends' use closely parallel the figures on seniors' own use (compare Figures A and Q). It thus comes as no surprise that the highest levels of exposure involve alcohol; a majority (59%) say they are "often" around people using it to get high. What may come as a surprise is that nearly 30% of all seniors say that most or all of their friends go so far as to get drunk at least once a week. (This is consistent, however, with the fact that 39% said they personally had taken five or more drinks in a row at least once during the prior two weeks.)

- The drug to which students are next most frequently exposed is marijuana. Only about one in four (26%) reports no exposure during the year. Some 25% are "often" around people using it to get high, and another 26% are exposed "occasionally." But only one in five (18%) now say that most or all of their friends smoke marijuana.

- Amphetamines, the most widely used class of illicit drugs other than marijuana, is also the one to which seniors are next most often exposed. Nearly half of all seniors (45%) have been around someone using them to get high over the past year, and 9% say they are "often" around people doing this.

FIGURE Q

Proportion of Friends Using Each Drug as Estimated by Seniors, in 1984



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- For the remaining illicit drugs there are far lower rates, with any exposure to use in the past year ranging from 36% for cocaine, down to 6% for heroin.

- More than two of every five seniors (41%) report no exposure to illicit drugs other than marijuana.

- Regarding cigarette smoking, it is interesting to note that only about one in every five seniors (19%) reports that most or all of their friends smoke.

Recent Trends in Exposure to Drug Use

- During the two-year interval from 1976 to 1978, seniors' reports of exposure to marijuana use increased in just about the same proportion as percentages on actual monthly use. In 1979 both exposure to use and actual use stabilized; and since 1979 both have been dropping. The proportion saying they are often around people using marijuana decreased from 39% in 1979 to 25% in 1984—a drop of one-third in the past five years.

- Cocaine had a consistent increase from 1976 to 1979 in the proportions exposed to users. From 1979 to 1983 there was a slight drop in exposure to use coinciding with the slight drop in self-reported use; but in 1984 there was again some increase in exposure to use.

- From 1979 to 1983 there had been statistically significant decreases in exposure to others (including close friends) using tranquilizers, and psychedelics other than LSD (including PCP) which coincide with continued declines in the self-reported use of these classes of drugs. There was little or no further change in 1984, however, in exposure to the use of these substances.

- There also had been a gradual decrease in exposure to barbiturates and LSD from 1975 through 1980. However, exposure to the use of both of these drugs then plateaued for two years, as did the usage figures. Both drugs have shown further decline in use since 1981, and both resumed their decline in exposure to use.

- Trend data are only available since 1979 on friends' use of PCP or the nitrites. For both drugs, exposure to friends' use had dropped significantly between 1979 and 1983. Only half as many seniors in 1983 (14%) said any of their friends used PCP than said that in 1979 (28%). The comparable drop for nitrites was from 22% to 15%. In 1984 there was no further drop in exposure to either drug, however.

TABLE 18

Trends in Proportions of Friends Using Drugs

(Entries are percentages)

Q. How many of your friends would you estimate...	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	'83-'84 change
Smoke marijuana											
% saying none	17.0	17.1	14.1	13.9	12.4	13.6	17.0	15.6	19.7	22.3	+2.6ss
% saying most or all	30.1	30.6	32.3	35.3	35.3	31.3	27.7	23.8	21.7	18.3	-3.4ss
Use inhalants											
% saying none	75.7	81.4	81.1	80.0	80.9	82.2	83.5	81.6	83.9	80.7	-3.2ss
% saying most or all	1.1	1.1	1.0	1.1	1.1	1.2	0.9	1.3	1.1	1.1	0.0
Use nitrites											
% saying none	NA	NA	NA	NA	78.4	81.0	82.6	82.5	85.5	85.0	-0.5
% saying most or all	NA	NA	NA	NA	1.9	1.3	1.2	0.9	0.7	1.2	+0.5
Take LSD											
% saying none	63.3	69.4	68.1	70.1	71.1	71.9	71.5	72.2	76.0	76.1	+0.1
% saying most or all	2.7	2.8	3.0	2.0	1.9	1.8	2.2	2.4	1.4	2.0	+0.6
Take other psychedelics											
% saying none	58.8	69.7	68.6	70.8	71.8	71.8	73.7	74.4	77.9	78.7	+0.8
% saying most or all	4.7	3.0	2.8	2.0	2.2	2.2	2.1	1.9	1.6	1.9	+0.3
Take PCP											
% saying none	NA	NA	NA	NA	72.2	77.8	82.8	82.7	85.8	85.8	0.0
% saying most or all	NA	NA	NA	NA	1.7	1.6	0.9	0.9	1.1	1.1	0.0
Take cocaine											
% saying none	66.4	71.2	69.9	66.8	61.1	55.4	59.9	59.3	62.4	61.1	-1.3
% saying most or all	3.4	3.2	3.6	4.0	6.0	6.1	6.3	4.9	5.1	5.1	0.0
Take heroin											
% saying none	84.8	86.4	87.1	85.7	87.1	87.0	87.3	86.8	88.0	87.0	-1.0
% saying most or all	0.7	0.8	0.7	0.9	0.5	1.0	0.9	0.7	0.8	0.8	0.0
Take other narcotics											
% saying none	71.2	75.9	76.3	76.8	76.9	77.6	76.9	76.1	79.2	78.6	-0.6
% saying most or all	2.1	2.2	1.7	1.4	1.5	1.7	1.5	1.4	1.4	1.6	+0.2
Take amphetamines											
% saying none	49.0	57.8	58.7	59.3	59.3	56.1	51.2	49.4	53.9	54.9	+1.0
% saying most or all	5.9	5.6	4.1	4.7	4.3	4.8	6.4	5.4	5.1	4.5	-0.6
Take barbiturates											
% saying none	55.0	63.7	65.3	67.5	69.5	69.3	68.9	68.7	.7	73.4	+1.7
% saying most or all	4.3	3.3	3.0	2.3	2.1	2.6	2.1	1.8	1.7	1.7	0.0

(Table continued on next page)

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TABLE 18 (cont.)

Trends in Proportions of Friends Using Drugs

(Entries are percentages)

Q. *How many of your friends would you estimate...*	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	'83-'84 change
Take quaaludes											
% saying none	68.3	73.0	71.7	73.0	72.3	67.3	65.0	64.3	70.3	73.8	+3.6s
% saying most or all	3.0	1.8	2.9	2.2	2.8	3.6	3.6	2.6	2.6	1.7	-0.9
Take tranquilizers											
% saying none	59.4	63.7	62.2	63.2	68.0	70.3	70.5	70.1	73.3	73.4	+0.1
% saying most or all	3.3	3.1	2.7	1.8	2.0	1.9	1.4	1.1	1.0	1.3	+0.3
Drink alcoholic beverages											
% saying none	3.3	4.9	3.6	5.1	4.6	3.9	5.3	4.3	4.3	5.4	+1.0
% saying most or all	68.4	64.7	66.2	68.9	68.5	68.9	67.7	69.7	69.0	66.6	-2.4
Get drunk at least once a week											
% saying none	17.6	19.3	19.0	18.0	16.7	16.9	18.2	16.9	16.1	18.7	+2.6s
% saying most or all	30.1	26.6	27.6	31.2	32.0	30.1	29.4	29.9	31.0	29.6	-1.4
Smoke cigarettes											
% saying none	4.8	6.3	6.3	6.9	7.9	9.4	11.5	11.7	13.0	14.0	+1.0
% saying most or all	41.5	36.7	33.9	32.2	28.6	25.3	22.4	24.1	22.4	19.2	-3.2s
Approx. N =	(2640)	(2829)	(3184)	(3247)	(2933)	(2987)	(3307)	(3303)	(3095)	(2945)	

NOTES: Level of significance of difference between the two most recent classes:
s = .05, ss = .01, sss = .001.
NA indicates data not available.

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TABLE 19

Trends in Exposure to Drug Use

(Entries are percentages)

6. During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	'83-'84 Change
Marijuana											
% saying not at all	NA	20.5	19.0	17.3	17.0	18.0	19.8	22.1	23.8	25.6	+1.8
% saying often	NA	32.5	37.0	39.1	38.9	33.8	33.1	28.0	26.1	24.8	-1.3
LSD											
% saying not at all	NA	78.8	80.0	81.9	81.9	82.8	82.6	83.9	86.2	87.3	+1.1
% saying often	NA	2.2	2.0	1.8	2.0	1.9	2.0	1.9	1.6	1.5	-0.1
Other psychedelics											
% saying not at all	NA	76.5	76.7	76.7	77.6	79.6	82.4	83.2	86.9	87.3	+0.4
% saying often	NA	3.1	3.2	2.9	2.2	2.2	2.0	2.6	1.1	1.7	+0.6
Cocaine											
% saying not at all	NA	77.0	73.4	69.8	64.0	62.3	63.7	65.1	66.7	66.4	-0.3
% saying often	NA	3.0	3.7	4.6	6.8	5.9	6.6	6.6	5.4	6.7	+1.3%
Heroin											
% saying not at all	NA	91.4	90.3	91.8	92.4	92.6	93.4	92.9	94.9	94.0	-0.9
% saying often	NA	0.8	1.1	0.9	0.7	0.9	0.6	1.0	0.7	1.1	+0.4
Other narcotics											
% saying not at all	NA	81.9	81.1	81.8	82.0	80.9	82.3	81.5	82.7	82.0	-0.7
% saying often	NA	1.8	2.4	2.0	1.7	1.7	1.7	2.4	2.2	2.0	-0.2
Amphetamines											
% saying not at all	NA	39.6	40.3	40.9	38.1	39.2	36.3	38.8	33.9	33.0	+1.1
% saying often	NA	6.8	7.9	6.7	7.4	8.3	12.1	12.3	10.1	9.0	-1.1
Barbiturates											
% saying not at all	NA	69.1	70.1	73.1	73.6	74.8	74.1	74.3	77.3	78.8	+1.5
% saying often	NA	4.3	5.0	3.4	3.3	3.4	4.0	4.3	3.0	2.7	-0.3
Tranquilizers											
% saying not at all	NA	67.7	66.0	67.3	67.3	70.9	71.0	73.4	76.3	76.9	+0.6
% saying often	NA	5.5	6.3	6.9	6.3	5.2	4.2	3.5	2.9	2.9	0.0
Alcoholic beverages											
% saying not at all	NA	6.9	5.6	5.3	5.2	5.3	6.0	6.0	6.0	6.0	0.0
% saying often	NA	57.1	60.8	60.8	61.2	60.2	61.0	59.3	60.2	58.7	-1.5
Approx. N =	(NA)	(3249)	(3579)	(3682)	(3253)	(3259)	(3608)	(3645)	(3336)	(3238)	

NOTES: Level of significance of difference between the two most recent classes:
0 = .05, oo = .01, ooo = .001.

NA indicates data not available.

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- The proportion having some friends who used amphetamines rose from 41% to 51% between 1979 and 1982—paralleling the sharp increase in reported use over that period. The proportion saying they were around people using amphetamines "to get high or for kicks" also jumped substantially between 1980 and 1982 (by 9%) but fell back 6% in the last two years (as actual use is observed to decline).*

- Between 1978 and 1981 methaqualone use rose, as did the proportion of seniors saying some of their friends used. A decline in both use and exposure started in 1982 and by 1984 there were 9% fewer seniors saying they had any friends who use quaaludes (from 35% to 26% between 1981 and 1984).

- The proportion saying that "most or all" of their friends smoke cigarettes dropped steadily between 1976 and 1981, from 37% to 22%. (During this period actual use dropped markedly, and more seniors perceived their friends as disapproving regular smoking.) Between 1981 and 1983, friends' use (as well as self-reported use) remained stable; but in 1984 the declines in both measures resumed. In 1977, the peak year, 34% said most of their friends smoked; in 1984 only 19% made the same statement.

- The proportion saying most or all of their friends get drunk at least once a week had been increasing steadily, between 1976 and 1979, from 27% to 32%—during a period in which the prevalence of occasional heavy drinking was rising by about the same amount. After that, there was little change in either measure until 1984, when both declined for the first time. But without question, what remains the most impressive fact here is that nearly a third of all high school seniors (30% in 1984) say that most or all of their friends get drunk at least once a week!

Implications for Validity of self-Reported Usage Questions

- We have noted a high degree of correspondence in the aggregate level data presented in this report among

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*This latter finding was important, since it indicated that a substantial part of the increase observed in self-reported amphetamine use was due to things other than simply an increase in the use of over-the-counter diet pills or stay-awake pills, which presumably are not used to get high. Obviously more young people were using stimulants for recreational purposes. There still remained the question, of course, of whether the active ingredients in those stimulants really were amphetamines.

seniors' self-reports of their own drug use, their reports concerning friends' use, and their own exposure to use. Drug-to-drug comparisons in any given year across these three types of measures tend to be highly parallel, as do the changes from year to year.* We take this consistency as additional evidence for the validity of the self-report data, and of trends in the self-report data, since there should be less reason to distort answers on friends' use, or general exposure to use, than to distort the reporting of one's own use.

Perceived Availability of Drugs

One set of questions asks for estimates of how difficult it would be to obtain each of a number of different drugs. The answers range across five categories from "probably impossible" to "very easy." While no systematic effort has been undertaken to assess directly the validity of these measures, it must be said that they do have a rather high level of face validity—particularly if it is the subjective reality of "perceived availability" which is purported to be measured. It also seems quite reasonable to us to assume that perceived availability tracks actual availability to some extent.

Perceived Availability in 1984

- There are substantial differences in the reported availability of the various drugs. In general, the more widely used drugs are reported to be available by the highest proportion of the age group, as would be expected (see Table 20 and Figure R).

- Marijuana appears to be almost universally available to high school seniors; some 85% report that they think it would be "very easy" or "fairly easy" for them to get—roughly 30% more than the number who report ever having used it.

- After marijuana, the students indicate that the psychotherapeutic drugs are the most available to them: amphetamines are seen as available by 68%, tranquilizers by 55%, and barbiturates by 52%.

- Less than half of the seniors (45%) see cocaine as readily available to them.

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*Those minor instances of non-correspondence may well result from the larger sampling errors in our estimates of these environmental variables, which are measured on a sample size one-fifth the size of the self-reported usage measures.

- LSD, other psychedelics, and opiates other than heroin are reported as available by only about one of every three or four seniors (31%, 27%, and 32%, respectively).

- Heroin is seen by the fewest seniors (20%) as being easy to get.

- The majority of "recent users" of nearly all drugs—those who have illicitly used the drug in the past year—feel that it would be easy for them to get that same type of drug. (Data not shown here.)

- There is some further variation by drug class, however. Most (from 73% to 97%) of the recent users of marijuana, cocaine, amphetamines, barbiturates, and tranquilizers feel they could get those same drugs easily. Smaller majorities of those who used LSD (69%), other opiates (68%), or heroin (67%) feel it would be easy for them to get those drugs again.

Trends in Perceived Availability

- Marijuana, for the first time since the study was begun in 1975, showed a small but statistically significant decline in perceived availability (down 3.9%) between 1982 and 1984, undoubtedly due to the reduced proportion of seniors who have friends who use. Still, 85% think marijuana would be easy to get.

- Amphetamines showed a full 11% jump in availability between 1979 and 1982; but availability has dropped back by 3% in the two years since then.

- The perceived availability of barbiturates also jumped about 6% between 1980 and 1982, but dropped back by 3% in the two years subsequent.

- Between 1977 and 1980 there was a substantial (15%) increase in the perceived availability of cocaine (see Figure R and Table 20). Among recent cocaine users there also was a substantial increase observed over that three year interval (data not shown). Since 1980 there has been a small drop (of about 3%) in perceived availability.

- The availability of tranquilizers declined steadily between 1978 and 1980, held steady for two years, and then declined another 4-5% between 1982 and 1984.

  The perceived availability of LSD and other psychedelics dropped sharply between 1975 and 1978. LSD availability has decreased since 1978 by only an

FIGURE R

Trends in Perceived Availability of Drugs

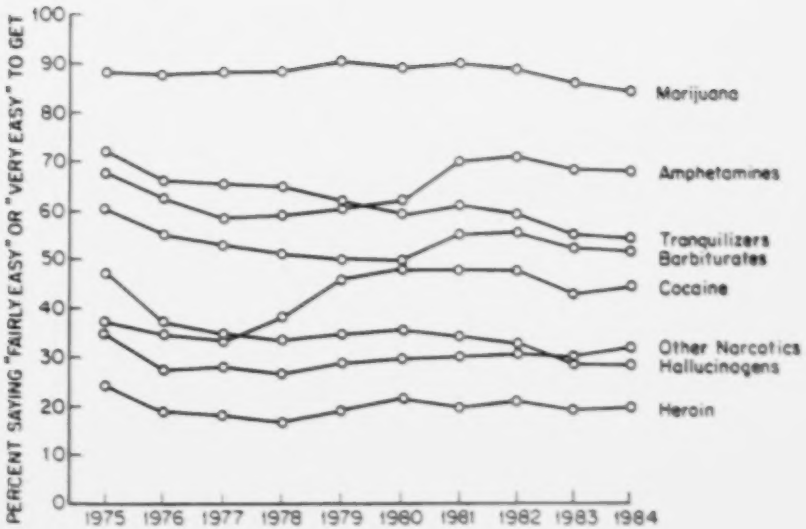

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TABLE 20

Trends in Reported Availability of Drugs

a. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Percent saying drug would be "Fairly easy" or "Very easy" for them to get										
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	'83-'84 change
Marijuana	87.8	87.4	87.9	87.8	90.1	89.0	89.2	88.5	86.2	84.6	-1.6
LSD	46.2	37.6	34.3	32.2	34.2	33.3	33.0	34.2	30.9	30.6	-0.3
Some other psychedelic	47.8	35.7	33.8	33.8	34.6	35.0	32.7	30.6	26.6	26.6	0.0
Cocaine	37.0	34.0	33.2	37.8	43.3	47.9	47.5	47.4	43.1	45.0	+1.9
Heroin	26.2	18.9	17.9	16.4	18.9	21.2	19.2	20.8	19.3	19.9	+0.6
Some other narcotic (including methadone)	34.3	26.9	27.8	26.1	28.7	29.4	29.6	30.4	30.0	32.1	+2.1
Amphetamines	67.8	61.8	58.1	58.3	59.9	61.3	69.5	70.8	68.3	68.2	-0.1
Barbiturates	60.5	54.9	52.9	50.6	49.8	49.1	54.9	51.2	52.3	51.9	-0.4
Tranquilizers	71.8	65.3	64.9	64.3	61.4	59.1	60.8	58.9	55.3	54.5	-0.8
Approx. N =	(3647)	(3161)	(3162)	(3598)	(3172)	(3240)	(3375)	(3602)	(3363)	(3269)	

NOTE: Level of significance of difference between the two most recent classes:
$\alpha = .05$, $\alpha = .01$, $\alpha = .001$.

[a]Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, and (5) Very easy.

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additional 1% (from 32% to 31%), but the easy availability of other psychedelics showed a further decline of an additional 7% by 1984 (from 34% to 27%) —a period during which the use of PCP dropped substantially.

- There is no evidence of any systematic change in the perceived availability of heroin since 1976; and other opiates also showed stability through 1983. A 2% increase in other opiates was observed in 1984, but it is not statistically significant.

- All these trends are similar among recent users.

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OTHER FINDINGS FROM THE STUDY

Each year we present additional recent findings from the Monitoring the Future study in this section. Some of these have been published elsewhere; however, the first two sections included here—on the use of non-prescription stimulants and daily marijuana use—represent original analyses.

The Use of Non-Prescription Stimulants

As is discussed elsewhere in this report, between 1979 and 1981 we observed a substantial increase in reported stimulant use by high school students. We had reason to believe that a fair part of that increase was attributable to non-prescription stimulants of two general types—"look-alike" drugs (pseudo-amphetamines, usually sold by mail order, which look like, and have names which sound like, real amphetamines) and over-the-counter stimulants (primarily diet pills and stay-awake pills). These drugs usually contain caffeine, ephedrine, and/or phenylpropanolamine as their active ingredients.

Beginning with the 1982 survey we introduced new questions on some questionnaire forms in order to more accurately assess the use of amphetamines as well as to assess the use of the "look-alikes," diet pills, and stay-awake pills of the non-prescription variety. For example, on one of the five questionnaire forms respondents were asked to indicate on how many occasions (if any) they had taken non-prescription diet pills such as Dietac, Dexatrim, and Prolamine (a) in their lifetime, (b) in the prior twelve months, and (c) in the prior thirty days. (These correspond to the standard usage questions asked for all drugs.) Similar questions were asked about non-prescription stay-awake pills (such as No-Doz, Vivarin, Wake, and Caffedrine) and the "look-alike" stimulants. (The latter were described at some length in the actual question.)

On three of the five questionnaire forms in 1982 and 1983 (and in all questionnaire forms thereafter) respondents were also asked about their use of prescription amphetamines, with very explicit instructions to exclude the use of over-the-counter and "look-alike" drugs. These questions yielded the data described in this volume as "stimulants, adjusted." Here we will refer to them as "amphetamines, adjusted," to distinguish them more clearly from the non-amphetamine stimulants.

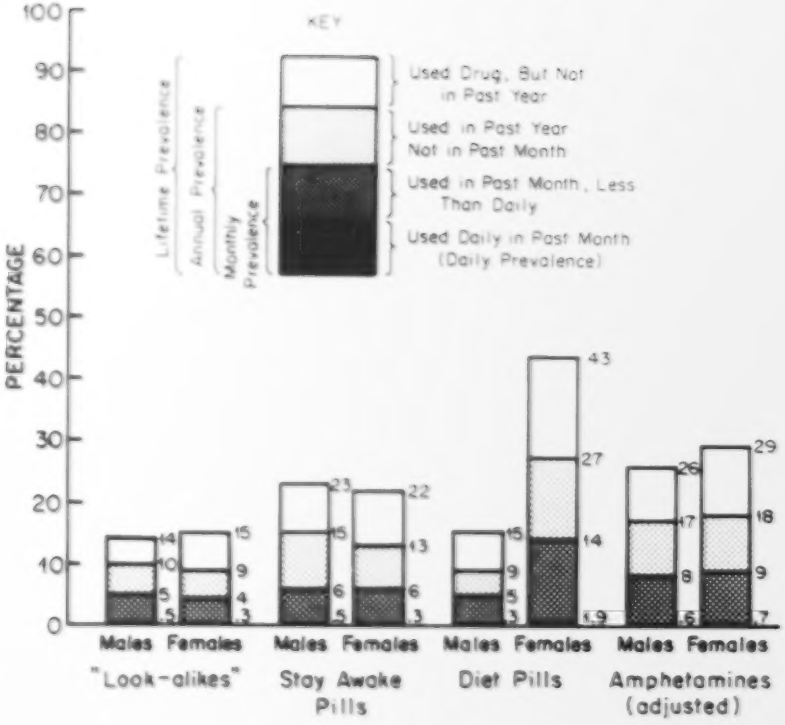
Prevalence of Use in 1984

- Table 21 gives the prevalence levels for these various classes of stimulants. As can be seen, a substantial proportion of students (30%) have used over-the-counter diet pills, and 10% have used them in just the past month. Some 1.1% are using them daily.

- Very similar proportions are using actual amphetamines (adjusted): 28% lifetime, 8% monthly, and 0.6% daily prevalence.

FIGURE 5

Prevalence and Recency of Use, by Sex
Amphetamines and Non-Prescription Stimulants, Class of 1984



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- Only about half as many students are knowingly using the "look-alikes" as are using diet pills or amphetamines (adjusted): 1.5% lifetime, 4.4% monthly, and 0.4% daily prevalence. Of course, it is probable that some proportion of those who think they are getting real amphetamines have actually been sold "look-alikes," which are far cheaper for drug dealers to purchase.

- Stay-awake pills have also been used by a fair number of students: 23% lifetime, 6% monthly, and 0.4% daily prevalence.

- The revised questions on amphetamine use yielded prevalence estimates in 1983 which were about one-quarter to one-third lower than the original version of the question, indicating that the distortion in the recent unadjusted estimates was due to the inclusion of some non-prescription stimulant use.

Subgroup Differences

- Figure 5 shows the prevalence figures for these drug classes for males and females separately. It can be seen that the use of diet pills is dramatically higher among females than among males. In fact, the absolute prevalence levels for females are impressively high, with some 43% reporting some experience with them and 14%—or one in every seven females—reporting use in just the last month. For all other stimulants the prevalence rates for both sexes are fairly close.

- A similar comparison for those planning four years of college (referred to here as the "college-bound"), and those who are not, shows some differences as well (data not shown). As is true for the controlled substances, use of the "look-alikes" is lower among the college-bound. For example, the annual prevalence figures for the college-bound vs. the non-college-bound respectively are 7% vs. 11% for the "look-alikes".

  There is practially no difference in use of diet pills; annual prevalence is 19% for the college-bound and 18% for the noncollege-bound. Use of stay-awake pills is actually slightly higher for the college-bound: annual prevalence is 14% vs. 13% for the noncollege-bound.

- There are not any dramatic regional differences in the use of the non-prescription stimulants, although the North Central region in each case has the highest

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TABLE 21

Various Stimulants: Trends in Lifetime, Annual, and 30-Day Prevalence by Sex

	Diet Pills				Stay-Awake Pills				Look-Alikes			
	Class of 1982	Class of 1983	Class of 1984	'83-'84 Change	Class of 1982	Class of 1983	Class of 1984	'83-'84 Change	Class of 1982	Class of 1983	Class of 1984	'83-'84 Change
Lifetime Prevalence												
Total	29.6	31.4	29.7	-1.7	19.1	20.4	22.7	+2.3	15.1	14.8	15.3	+0.5
Males	16.5	17.4	14.8	-2.6	20.2	22.3	23.2	+0.9	13.6	14.2	14.1	-0.1
Females	42.2	44.8	43.1	-1.7	16.9	18.2	21.7	+3.5*	15.1	14.9	15.2	+0.3
Annual Prevalence												
Total	20.3	20.3	18.8	-1.7	11.8	12.3	13.9	+1.6	11.8	9.4	9.7	+0.3
Males	10.7	10.6	9.2	-1.4	12.8	13.8	15.4	+1.6	9.3	9.2	9.7	+0.5
Females	29.5	30.3	27.5	-2.3	10.3	10.7	12.3	+1.6	10.7	8.9	8.5	-0.3
30-Day Prevalence												
Total	8.8	9.1	8.4	-0.6	5.1	5.3	5.8	+0.5	5.6	3.2	4.4	+0.8
Males	5.3	6.5	4.8	-0.1	6.3	5.3	6.2	+0.7	4.9	4.5	4.5	0.0
Females	14.0	13.7	14.2	+0.5	4.7	4.5	5.5	+1.0	5.2	3.4	5.8	+1.4

NOTE: Level of significance of difference between the two most recent classes:
* = .05, ** = .01, *** = .001.

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annual prevalence (data not shown); the rank ordering among the other regions varies. The annual prevalence for diet pills is 20% in the North Central and South, 18% in the Northeast and 16% in the West. "Look-alikes" have an annual prevalence of 11% in the North Central and Northeast, 9% in the South and 8% in the West. The stay-awake pills have an annual prevalence of 16% in the North Central and West, and 12% in the Northeast and South.

- There are no systematic differences in use of non-prescription stimulants associated with population density.

- The use of all of the non-prescription stimulants (i.e., diet pills, stay-awake pills, and "look-alikes") is substantially higher among those who have had experience with the use of illicit drugs than among those who have not, and highest among those who have become most involved with illicit drugs (data not shown). For example, less than 1% (0.7%) of those who have abstained from any illicit drug use report ever using a "look-alike" stimulant, compared to 5.4% of those who have used only marijuana, and 34.4% of those who have used some illicit drug other than marijuana.

Trends in Use

- Because these questions were new in 1982, trends can be directly assessed for only a two-year interval.

- However, it is worth noting that the 1982 figures for amphetamines (adjusted) are higher than the unadjusted figures for all years prior to 1980. (See Tables 7 through 10.) This suggests that there was indeed an increase in amphetamine use between 1979 and 1982—or at least an increase in what, to the best of the respondent's knowledge, were amphetamines.

- In recent years, there have been increased legislative and law enforcement efforts to curb the manufacture and distribution of "look-alike" pills. Perhaps as a result, the use of these pills decreased slightly (though not statistically significantly) from 1982 to 1984; for example, annual prevalence went from 10.8% to 9.7%.

- Use of diet pills showed practically no change between 1982 and 1984.

- Use of stay-awake pills has increased, with a lifetime prevalence of 23% in 1984, up from 19% in 1982. Monthly prevalence showed only a small and statistically non-significant increase, from 5.5% to 5.8%.

- Subgroup differences in trends for the most part reflect the overall trends.

- One exception is that there has been some narrowing of the differences between the college and noncollege-bound groups in use of diet pills and look-alike pills. Between 1982 and 1984, use of diet pills at all three prevalence intervals (lifetime, annual, and monthly) went down among the noncollege-bound group, but held steady or slightly increased among the college-bound. For example, annual prevalence went from 18% in 1982 to 19% in 1984 among the college-bound, but decreased from 23% to 18% in the noncollege-bound. Use of look-alikes stayed about the same between 1982 and 1984 among the college-bound, but decreased among the noncollege-bound.

The Use of Marijuana on a Daily Basis

In past reports in this series, we summarized a number of findings regarding daily marijuana users, including what kind of people they are, how use changes after high school for different subgroups, and what daily users see to be the negative consequences of their use.* In 1982 a special question segment was introduced into the study in one of the five questionnaire forms in order to secure more detailed measurement of individual patterns of daily use. More specifically, respondents were asked (a) whether if at any time during their lives they had ever used marijuana on a daily or near-daily basis for at least a month and, if so, (b) how recently they had done that, (c) when they first had done it, and (d) how many total months they had smoked marijuana daily, cumulating over their whole lifetime.

Lifetime Prevalence of Daily Use

- Current daily use, defined as use on twenty or more occasions in the past thirty days, has been fluctuating widely over the past eight years, as we know from the

*For the original reports see the following, which are available from the author: L.D. Johnston, "Frequent marijuana use: Correlates, possible effects, and reasons for using and quitting," in R. DeSilva, et al., (Eds.), Treating the marijuana dependent person. New York: The American Council on Marijuana, 1981. Also L. D. Johnston, "A review and analysis of recent changes in marijuana use by American young people," in Marijuana: The national impact on education, New York: The American Council on Marijuana, 1982.

trend data presented earlier in this report. It rose from 6.0% among seniors in 1975 to 10.7% in 1978, then down to 5.0% in 1984.

- For the Classes of 1982 - 1984, we have found the lifetime prevalence of daily use for a month or more to be far higher than current daily use—e.g., at 16.2% or one in every six seniors in 1984. In other words, the proportion who describe themselves as having been daily or near-daily users at some time in their lives is four times as high as the number who describe themselves as current daily users. However, we believe it very likely that this ratio has changed dramatically over the life of the study as a result of the large secular trends in daily use. Therefore, it would be inaccurate to extrapolate to the Class of 1978, for example, and deduce that their lifetime prevalence of daily use was four times their 10.7% current use figure. (An investigation of data from a follow-up panel of the Class of 1978 confirms this assertion.)

  Utilizing data collected in 1984 from follow-up panels from the earlier graduating Classes of 1976 through 1983, we find that the lifetime prevalence of daily marijuana use for these recent graduates (ranging in age from about 19 to 26) is 21%.

Grade of First Daily Use

- Of those seniors who were daily users at some time, two-thirds (67%, or 11% of all seniors) began that pattern of use before tenth grade. However, the secular trends in daily use must be recalled. Active daily use reached its peak among seniors in 1978, when this 1984 graduating class was in sixth grade. Thus we are confident that different graduating classes show different age-associated patterns.

- By the end of grade ten, nearly all who were to become daily users by the end of high school had done so (86% of the eventual daily users). The percentages of all daily users who started use in each grade level is presented in Table 22.

Recency of Daily Use

- Nearly two-thirds (63%) of those who report ever having been daily marijuana users (for at least a one month interval) have smoked that frequently in the

TABLE 22

Responses to Selected Questions on Daily Marijuana Use by Subgroup

	Total	Sex		4-year college plans		Region				Urbanicity		
		M	F	Yes	No	NE	NC	S	W	Large urban	Other urban	Non-urban
4. Thinking back over your whole life, has there ever been a period when you used marijuana or hashish on a daily, or almost daily, basis for at least a month?												
No	83.7	82.8	87.1	89.3	81.1	75.9	87.2	86.0	82.4	80.6	83.4	86.8
Yes	16.3	17.2	12.9	10.7	18.9	24.1	12.8	14.0	17.6	19.4	16.6	13.2
5. How old were you when you first smoked marijuana or hashish that frequently?												
Grade 6 or earlier	1.9	2.1	1.0	1.0	1.9	2.9	2.0	1.9	0.8	1.3	2.4	1.7
Grade 7 or 8	4.8	5.3	3.1	2.9	5.4	7.9	3.3	3.2	6.1	5.9	4.8	2.5
Grade 9 (Freshman)	4.2	4.2	3.9	2.7	5.0	6.4	2.9	3.4	5.2	4.2	4.3	4.2
Grade 10 (Sophomore)	3.1	3.2	2.7	2.3	3.5	3.8	2.4	3.0	3.7	3.6	3.2	2.3
Grade 11 (Junior)	1.9	1.8	1.8	1.4	2.7	2.7	1.6	2.3	1.4	2.1	1.9	2.1
Grade 12 (Senior)	0.3	0.3	0.3	0.2	0.3	0.3	0.5	0.2	0.3	0.9	0.3	0.1
Never used daily	83.7	82.8	87.1	89.3	81.1	75.9	87.2	86.0	82.4	80.6	83.4	86.8
6. How recently did you use marijuana or hashish on a daily, or almost daily, basis for at least a month?												
During the past month	4.1	4.9	2.1	2.1	4.9	5.2	3.9	4.4	2.9	4.3	4.3	3.6
2 months ago	0.9	1.1	0.5	0.7	0.8	1.6	0.9	0.9	0.7	1.0	0.9	1.0
3 to 9 months ago	2.1	1.9	2.1	1.1	2.9	3.1	1.3	1.8	3.0	2.3	2.3	1.4
About 1 year ago	1.1	1.4	0.2	0.8	1.4	1.1	0.1	1.0	1.6	1.7	1.6	1.0
About 2 years ago	1.1	0.9	1.2	0.5	1.6	1.6	0.2	0.3	1.6	1.9	1.1	0.4
3 or more years ago	3.1	2.7	3.0	2.3	3.2	3.7	2.3	1.7	3.6	4.0	3.4	1.8
Never used daily	83.7	82.8	87.1	89.3	81.1	75.9	87.2	86.0	82.4	80.6	83.4	86.8
7. Over your whole lifetime, during how many months have you used marijuana or hashish on a daily or near-daily basis?												
Less than 3 months	5.0	5.3	4.4	3.6	6.1	7.8	2.8	5.2	4.7	5.3	5.3	3.9
3 to 9 months	2.9	2.5	2.9	2.6	2.4	4.4	2.4	2.1	3.7	3.6	2.7	2.6
About 1 year	2.4	2.4	2.1	1.7	2.7	2.6	2.5	2.4	2.2	3.0	2.6	1.7
About 1 and ½ years	1.3	1.3	1.3	0.6	1.9	2.2	1.0	1.2	1.2	1.9	1.1	1.1
About 2 years	1.7	2.3	1.2	1.0	2.4	2.8	0.9	1.3	2.7	2.0	1.6	1.8
About 3 to 3 years	2.2	2.3	1.2	1.0	2.4	3.4	1.6	1.4	3.0	2.7	2.1	1.6
4 or more years	0.8	1.1	0.2	0.2	1.0	0.9	1.5	0.5	0.1	0.9	0.9	0.5
Never used daily	83.7	82.8	87.1	89.3	81.1	75.9	87.2	86.0	82.4	80.6	83.4	86.8
N =	(3191)	(1482)	(1580)	(1738)	(1088)	(641)	(917)	(1068)	(564)	(823)	(1375)	(983)

NOTE: Entries are percentages which sum vertically to 100%.

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past year to year-and-a-half, while over one-third (38%) of them say they last used that frequently "about two years ago" or longer. On the other hand, only 25% of all such users (or 4.1% of the entire *sample) say they have used daily or* almost daily in the past month (the period for which we define current daily users). The fact that only 4.1% of the entire sample report themselves to be current daily users, versus the 5.0% estimate given earlier in this report, suggests that some students have a more stringent definition of "daily or near-daily use" than the operational one used in this report (i.e., use on twenty or more occasions during the past month).

Duration of Daily Use

- It seems likely that the most serious long-term health consequences associated with marijuana use will be directly related to the duration of heavy use. Thus a question was introduced which asks the cumulative number of months the student has smoked marijuana daily or nearly daily. While hardly an adequate measure of the many different possible cross-time patterns of use—a number of which may eventually prove to be important—it does provide a gross measure of the total length of exposure to heavy use.

- Table 22 gives the distribution of answers to this question. It shows that almost two-thirds (63%) of those with daily use experience have used "about one year" or less cumulatively—at least by the end of twelfth grade. In fact, almost one-third (31%) have used less than three months cumulatively.

- On the other hand, over one-fourth (29%, or 5% of all seniors) have used "about two years" or more cumulatively on a daily or near-daily basis.

Subgroup Differences

- There is some sex-difference in the proportion having ever been a daily user—17% for males and 13% for females—and there is also some difference in their age at onset, with the males tending to start earlier on the average. And, among the daily users, the cumulative duration of use is distinctly longer for the males, which accounts for the large male-female difference in current daily use.

TABLE 23

Trends in Daily Use of Marijuana in Lifetime by Subgroups

	Percent ever used				Percent reporting first use prior to tenth grade			
	Class of 1982	Class of 1983	Class of 1984	'83-'84 change	Class of 1982	Class of 1983	Class of 1984	'83-'84 change
All seniors	20.5	16.8	16.3	-0.5	13.1	11.1	10.9	-0.2
Sex:								
Male	20.1	18.1	17.2	-0.9	12.9	12.1	11.8	-0.3
Female	18.0	13.5	12.9	-0.6	11.5	8.3	8.0	-0.3
College Plans:								
None or under 4 yrs	22.5	20.3	18.9	-1.4	14.2	13.5	12.3	-1.2
Complete 4 yrs	13.8	10.5	10.7	+0.2	8.2	6.5	6.6	+0.1
Region:								
Northeast	25.1	20.4	24.1	+3.7	17.3	11.9	17.2	+5.3s
North Central	21.1	15.9	12.8	-3.1	13.3	12.4	8.4	-4.0s
South	15.7	12.7	14.0	+1.3	9.3	8.3	8.5	+0.2
West	20.8	21.4	17.6	-3.8	12.6	13.9	12.1	-1.8
Population Density:								
Large SMSA	23.8	20.0	19.4	-0.6	12.6	13.7	12.4	-1.3
Other SMSA	20.3	18.2	16.6	-1.6	12.5	12.0	11.5	-0.5
Non-SMSA	17.9	12.6	13.2	+0.6	11.7	8.2	8.5	+0.3

NOTES: Level of significance of difference between the two most recent classes:
s = .05, ss = .01, sss = .001.

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- Whether or not the student has college plans is strongly related to lifetime prevalence of daily use, as well as to current prevalence. Of those planning four years of college, 11% had used daily compared with 19% of those without such plans. And the college-bound users show a distinctly shorter cumulative duration of use, with a lower proportion of them still using daily. Nevertheless, among those in each group who did use daily, the age-at-onset pattern is fairly similar.

- There are some large regional differences in lifetime prevalence of daily use, all consistent with those found for current daily use. The Northeast is highest, with 24% having used daily at some time, the West is in the middle at 17%, and the South and North Central are the lowest at 14% and 13%, respectively.

- The subgroup differences associated with urbanicity are likewise similar to those found for current daily use. Lifetime prevalence of daily marijuana use is 19% in the large cities, 17% in the smaller cities, and 13% in the non-urban areas.

Trends in the Use of Marijuana on a Daily Basis

- Compared to the class of 1982, significantly fewer seniors in the class of 1983 had described themselves as having been daily or nearly daily users of marijuana at some time in their lives (21% vs. 17%); the decline continued in 1984, though the change was only modest, down to 16%.

- Between 1982 and 1984, the decline was stronger among females (from 18% in 1982 to 13% in 1984) than among males (20% to 17%).

- Both the college-bound and noncollege-bound groups declined between 1982 and 1983; the noncollege-bound continued to decrease in 1984, but the college-bound actually showed a slight increase.

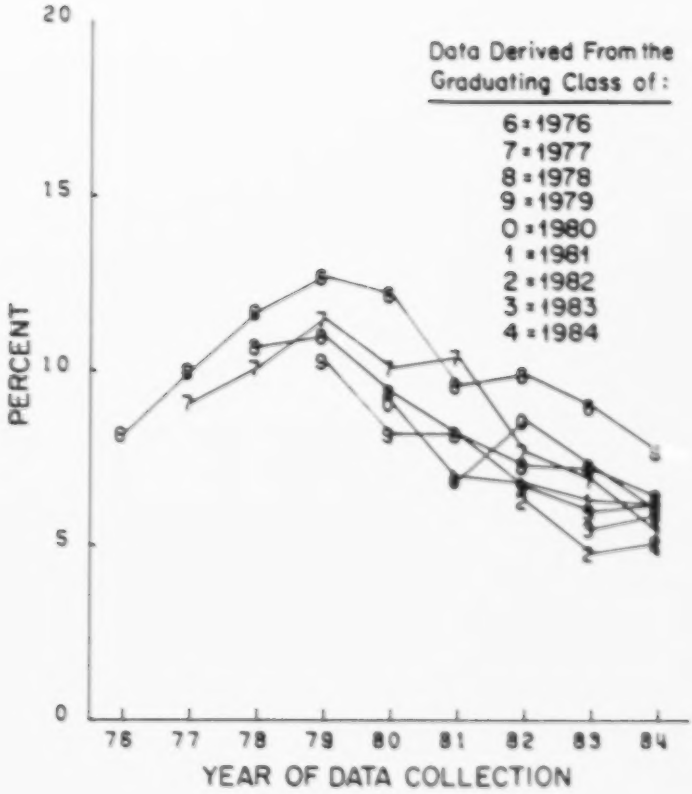
- Lifetime prevalence is down in all four regions between 1982 and 1984, with the North Central showing the largest decline (from 21% in 1982 to 13% in 1984). The other regions are down by 1-3%.

- All three population density levels showed 1982 to 1984 declines of 3-5%.

- The trends in daily use of marijuana at earlier grade levels parallel very closely the trends in lifetime prevalence (see Table 23).

FIGURE T

Marijuana: Trends in Thirty-Day Prevalence of Daily Use
Classes of 1976–1984 Followed Through 1984



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Results Based on Follow-Up Surveys

The reporting of differences in drug use from one senior class to another has been emphasized in this series of reports. Such observed changes could be due to two quite different kinds of influences: (a) secular trends, that is, changes in particular years common to all age groups, or (b) cohort effects, that is, differences between cohorts that carry over to the years after high school. There are in addition two other kinds of change that the Monitoring the Future study was designed to distinguish: maturational effects, that is, changes associated with age, regardless of which class cohort is examined; and changes in the years after high school linked to different types of experiences and environments, such as college, marriage, etc. In order to measure and attempt to distinguish these different types of change, the project design includes follow-up surveys by mail of subsamples of those seniors who participated in the high school data collections. Because such follow-up efforts are more expensive than the senior-year surveys, they are pursued on a much smaller scale. Several recent journal articles have reported some of our analyses of the various patterns of drug use, and changes in drug use, during early adulthood. Summarized below are some of the key findings from those articles.

Period, Age, and Cohort Effects. One article distinguished among period, age, and chohort effects in drug use between 1976 and 1982;* here we summarize the results, updated to include data from 1983 and 1984.

- Concerning the rapid rise and then substantial decline in marijuana use mentioned earlier in this report, it may be asked whether these shifts from one senior class to another represent secular trends (which would show up in much the same way across a broader band of ages—say 15 to 25) or cohort differences (distinctions between those in the classes of, say, 1975 and 1978 which will continue for some years to come). The data in Figure T indicate rather clearly that the differences observed among senior year samples reflect a secular trend or period effect—marijuana use

*For a more detailed reporting of our efforts to differentiate period, age, and cohort effects on substance use among youth, as well as a discussion of some of the problems and complexities involved, see O'Malley, P.M., Bachman, J.G., and Johnston, L.D. (1983) Period, age, and cohort effects on substance use among American youth 1976-1982 (Monitoring the Future Occasional Paper 14). Ann Arbor: The Institute for Social Research; and, O'Malley, P.M., Bachman, J.G., and Johnston, L.D. (1984) Period, age, and cohort effects on substance use among American youth 1976-1982. American Journal of Public Health, 74, 682-688.

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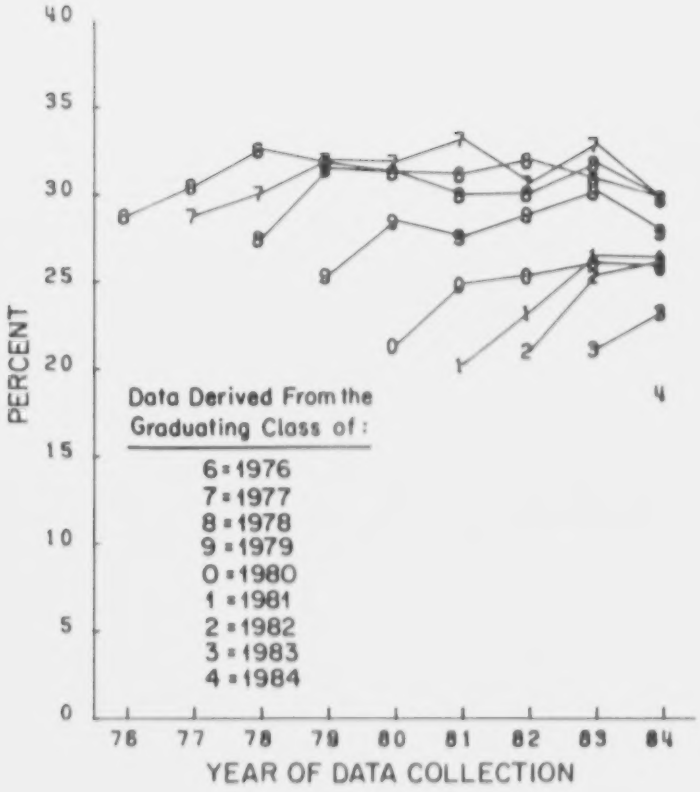
FIGURE U

Cigarettes: Trends in Thirty-Day Prevalence of Daily Use
Classes of 1976-1984 Followed Through 1984



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hit its peak in the late seventies not only for those who were high school seniors but also for those in their very late teens and early twenties.

- The story for cigarette use is quite a bit different, however, as illustrated in Figure U. The follow-up data, coupled with the senior year drug use reports, show that there are persistent differences from one graduating class to another in proportions of cigarette users. The more recent cohorts have lower proportions of smokers not just at age 18 (senior year) but also at ages 19, 20, etc., than do the cohorts who graduated in the mid-seventies. Moreover, seniors' retrospective reports, discussed earlier (see Figure J-17), indicate that these cohort differences arose well before age 18.

- The patterns of base-year and follow-up data presented in Figures T and U illustrate some of the ways in which the Monitoring the Future cohort-sequential design can be used to demonstrate period effects, consistent cohort differences, and age-related effects.

Stability and Change in Use after High School. Other applications of the follow-up data from the Monitoring the Future project take advantage of the panel design—the fact that the same individuals are surveyed in both base-year and follow-ups. One question of considerable importance is the extent to which drug-using behaviors remain relatively stable from year to year.

- Panel analyses indicate quite a strong correlation between senior year use of a drug and use of that same drug during the first several years after high school. After adjustments for measurement reliability, we estimate annual stabilities at .9 or higher for cigarette use and .8 or higher for use of alcohol, marijuana, and other illicit drugs. This means that the single most important predictor of post-high school drug use is use during high school.

- We do not interpret the strong correlation between earlier and later drug use as indicating simply that senior year drug use causes drug use several years later. Rather, we recognize that many of the factors which influence drug use—factors such as religious commitment, commitment to education, peer and family pressures, personal attitudes about drugs, and other aspects of lifestyle—all have a certain stability themselves. Thus, in a sense, our measures of senior year drug use are convenient proxies for a wide array of more fundamental (and relatively stable) causes of

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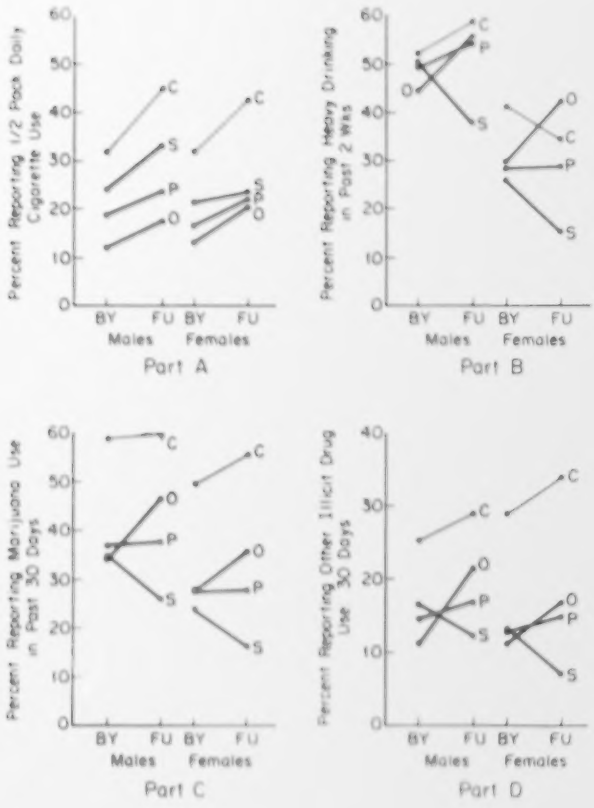
FIGURE V

Drug Use Related to Living Environment
Base-Year and Follow-Up Percentages


Percent Reporting 1/2 Pack Daily Cigarette Use
Percent Reporting Heavy Drinking in Past 2 Wks
Percent Reporting Marijuana Use in Past 30 Days
Percent Reporting Other Illicit Drug Use 30 Days
BY FU BY FU
Males Females
Part A
Part B
Part C
Part D

NOTES: S = living with spouse (7% of Males; 16% of Females);
C = living with cohabitant of opposite sex (unmarried) (3% Males; 5% Females);
P = living with parent(s) (68% Males; 63% Females);
O = all living arrangements (62% Males; 36% Females).

BY = base-year data, from seniors in 1975-1979;
FU = follow-up data, from graduates 1-3 years after high school (collected in 1978-80).

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drug use, of which we have measured and analyzed only a portion.*

Impacts of Post-High School Experiences. Given that much of drug use after high school is predictable from senior year drug use, it remains important to understand those shifts in use which may be attributable to post-high school experiences. Our early analyses, based on follow-up surveys one, two, and three years after graduation, have examined three interrelated dimensions of experience: education, occupation, and living arrangements. It would have been unwise to examine any one of these dimensions in isolation, because they are so closely interconnected. For example, those employed in full-time jobs are unlikely also to be full-time students. As another example, recent high school graduates who are primarily college students are less likely to be married and living with a spouse, but also less likely to be living with parents, than those who are employed full-time and not going to college.

- When such overlaps were taken into account, the analyses revealed little direct impact attributable to post-high school educational and occupational experiences. On the other hand, living arrangements did seem to produce clear, consistent, and readily interpretable shifts in drug use, as shown in Figure V. Figure V presents data for four dimensions of drug use, showing base-year and follow-up (one, two, and three years beyond high school, data combined) percentages for those in four different living arrangements.**

- The data concerning cigarette use show rather little in the way of differential shifts during the first years after high school. We noted earlier an increase in the proportion of half-pack-a-day smokers in the first year following high school, and Part A of Figure V reflects

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*For more extensive treatments of stability in drug use, and methods of estimation, see Bachman, J.G., O'Malley, P.M., and Johnston, L.D. (1981) Changes in drug use after high school as a function of role status and social environment (Monitoring the Future Occasional Paper 11). Ann Arbor: Institute for Social Research; and, O'Malley, P.M., Bachman, J.G., and Johnston, L.D. (1983) Reliability and consistency of self-reports of drug use. International Journal of the Addictions, 18(6), 805-824.

**For a more extensive discussion of methods and findings, see Bachman, J.G., O'Malley, P.M., and Johnston, L.D. (1984) Drug use among adults: The impacts of role status and social environment. Journal of Personality and Social Psychology, 47, 629-645; and, Bachman, J.G., O'Malley, P.M., and Johnston, L.D. (1981) op. cit.

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that increase. However, in other respects the figure indicates that differences associated with living arrangements are clearly evident before the end of high school. The pattern displayed in Part A results from the fact that there are different proportions of college students in the different living arrangements (e.g., more students in the "other" living arrangements category, few students living with a spouse), and college plans as well as eventual educational attainment show a strong negative correlation with smoking during high school and afterward. In other words, the higher level of educational aspiration and later attainment, the less likely the youth is to be a smoker; and this holds true just about as strongly during the high school years as afterward.

- Use of alcohol, marijuana, and other illicit drugs (see Parts B, C, and D of Figure V) all are influenced by post-high school living arrangements, and the effects are closely parallel. Being married and living with a spouse appears to reduce drug use, compared with usage levels as high school seniors. (Incidentally, while the data shown in Figure V are percentages above a certain threshold of drug use, other analyses dealing with mean frequencies of drug use produced very similar findings. Thus we refer to increased or decreased use rather than simply changes in percentages of users.)

- The smallest category in terms of post-high school living arrangements consists of those who reported living unmarried with a partner of the opposite sex. When these individuals were seniors (and in most cases still living with their parents), they were far above average in their rates of drug use; and the above average use continued after graduation. It thus appears that cohabitation experiences are rather different from marriage when it comes to impacts on drug use during the first years after high school.

- Many young adults continue living with parents for a while after high school (more than half at one year beyond graduation, and more than one-third at three years beyond graduation). For those in this category, use of alcohol, marijuana, and other illicit drugs showed rather little change, on average, during the first few years after high school.

- The rest of the high school graduates were grouped together as those in other living arrangements. This category includes people living alone or with others in apartments, dormitories, military bases, etc. As high

school seniors, their average levels of drug use were not different from their classmates who would continue living with parents or marry during the first few years after graduation. However, those who entered those "other living arrangements" after high school showed increases in their use of alcohol, marijuana, and other illicit drugs.

- In sum, our analyses of the impacts of post-high school experiences reveal that use of alcohol, marijuana, and other illicit drugs decreases among those living with a spouse, remains largely unchanged among those living with parents, and increases among those in most other living arrangements. Post-high school educational and occupational experiences show relatively little independent impact on drug use, once their statistical association with living arrangements is taken into account.

Other Data on Correlates and Trends

Hundreds of correlates of drug use, without accompanying interpretation, may be found in the series of annual volumes from the study entitled Monitoring the Future: Questionnaire Responses from the Nation's High School Students.* For each year since 1975, a separate hardbound volume presents univariate and selected bivariate distributions on all questions contained in the study. Many variables dealing explicitly with drugs—variables not discussed here—are contained in that series; and bivariate tables are provided for all questions each year distributed against an index of lifetime illicit drug involvement. A special cross-time reference index is contained in each volume to facilitate locating the same question across different years. One can thus derive trend data on some 1500 to 2000 variables for the entire sample, or for important sub-groups (based on sex, race, region, college plans, or drug involvement).

*This series is available from the Publications Division, Institute for Social Research, The University of Michigan, Ann Arbor, Michigan 48109.

Appendix

ESTIMATES ADJUSTED FOR ABSENTEES AND DROPOUTS

One question which has arisen over the years in regard to this study has concerned the degree to which the prevalence and trend estimates derived from high school seniors are an accurate reflection of the reality which pertains for all young people who would be in the same class or age cohort, including those who have dropped out of school by senior year. In 1984 we wrote and delivered an extensive paper on this topic which soon will be published as a chapter in a volume in the NIDA Research Monograph series.* We will attempt in this Appendix to summarize the main points in that paper which are relevant to this issue.

First, it should be noted that two segments of the entire class/age cohort are missing from the data collected each year from seniors: those who are still enrolled in school but who are absent that day (the "absentees"), and those who have formally left school (the dropouts). The "absentees" constitute virtually all of the non-respondents shown in the response rate table given in the Introduction to this volume (since refusal rates are negligible) or about 18% of all seniors (or 15% of the class/age cohort). Based on our review of available Census data the dropouts account for approximately 15% of the class/age cohort.

The methods we used to estimate the prevalence rates for these two missing segments are summarized briefly here. Then, the effects of adding in these two segments to the calculation of the overall prevalence rates for two drug classes are presented along with the impact on the trend estimates. Two illicit drugs have been chosen for illustrative purposes: marijuana, the most prevalent of the illicit drugs; and cocaine, one of the more dangerous and less prevalent drugs. Estimates are presented for both lifetime and 30-day prevalence for each drug.

The Effects of Missing Absentees

To be able to assess the effects on the estimates of drug use of missing the absentees, we included a question in the study which asks students how many days of school they had missed in the previous four weeks. Using this variable, we can place individuals into different strata as a

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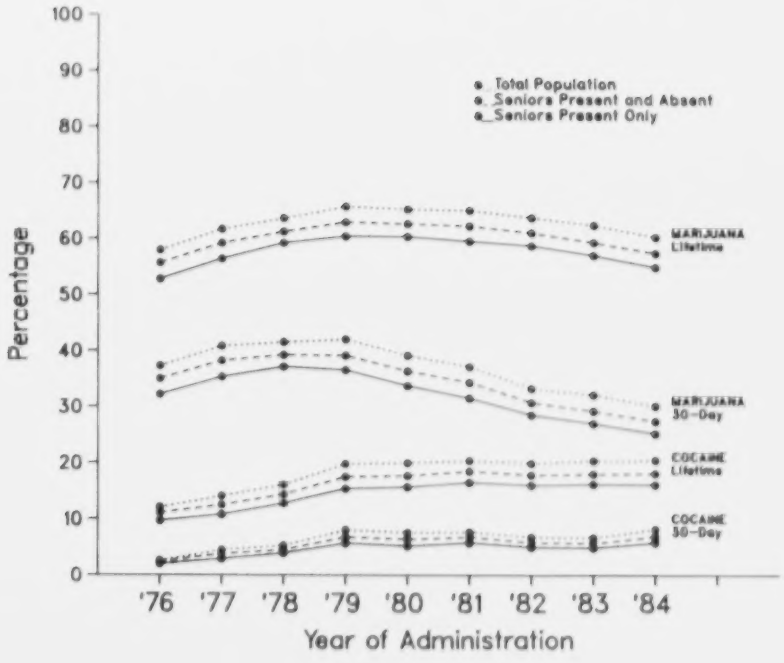
*Johnston, L.D. and O'Malley, P.M. Issues of validity and population coverage in student surveys of drug use. In B. Rouse, et al., (Eds) Current challenges to drug abuse estimation (NIDA Research Monograph), Rockville, MD: National Institute on Drug Abuse, in press.

FIGURE V

Estimates of Prevalence and Trends for the Entire Age/Class Cohort, Adjusting for Absentees and Dropouts



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function of how often they tend to be absent. For example, all students who had been absent 50% of the time could form one stratum. Assuming that absence on the day of the administration is a fairly random event, we can use the respondents in this stratum to represent all students in the stratum, including the ones who happen to be absent that particular day. By giving them a double weight, they can be used to represent both themselves and the other 50% of their stratum who were absent that day. Those who say they were in school only one-third of the time would get a weight of three to represent the two-thirds in their stratum who were not there, and so forth.

Using this method, we found that absentees as a group have appreciably higher than average usage levels for all licit and illicit drugs. However, looking at 1983 data, we found that their omission did not depress any of the prevalence estimates in any of the drugs by more than 2.7%, due to the fact that they represent such a small proportion of the total target sample. Considering that a substantial proportion of those who are absent likely are absent for reasons unrelated to drug use—such as illness and participation in extracurricular activities—it may be surprising to see even these differences. In any case, from the point of view of instructing policy or public perceptions, the small "corrections" would appear to be of little or no significance. (The correction across all 13 drugs in lifetime prevalence averaged only 1.4%.) Further, such corrections should have virtually no effect on cross-time trend estimates unless the rate of absenteeism were changing appreciably; and we find no evidence in our data that it is. Put another way, the presence of a fairly slight underestimate which is constant across time should not influence trend results. Should absentee rates start changing, then it could be argued more convincingly that such corrections should be presented routinely.

The Effect of Missing Dropouts

Unfortunately, we cannot derive corrections from data gathered from seniors to impute directly the prevalence rates for dropouts, as we did for absentees, since we have no completley appropriate stratum from which we have "sampled." We do know from our own previous research, as well as the work of others, that dropouts have prevalence rates for all classes of drugs substantially higher than the in-school students. In fact, the dropouts may not be too dissimilar from the absentees.

The proportion who fail to complete secondary school we estimate to be about 15% based on Census data published for 1977 which showed that the proportion of 20 to 24 year olds who were not high school graduates was 15.4%.* (Younger age brackets are more difficult to use because

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*U.S. Bureau of the Census. School enrollment—social and economic characteristics of students, October 1976. Current Population Reports Series P.20, No. 319. Washington, DC: U.S. Government Printing Office, 1978.

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they include some who are still enrolled in high school.) Monitoring the Future probably covers some small proportion of the 15%, in fact, since the survey of seniors takes place a few months before graduation, and not everyone will graduate. On the other hand, perhaps 1% to 2% of the age group which Census shows as having a diploma get it through a General Equivalency Degree and thus would not be covered in Monitoring the Future. (Elliot and Voss report this result for less than 2% of their sample in their follow-up study of 2617 ninth graders in California who were followed through their high school years.)* So these two factors probably cancel each other out. Thus, we use 15% as our estimate of the proportion of a class cohort not covered.

Extrapolating to Dropouts From Absentees. To estimate the drug usage prevalence rates for this group we used two quite different methods. The first was based on extrapolations from seniors participating in this study. Using this method we developed estimates under three different assumptions: that the difference between dropouts and the seniors who participated in the study was equivalent to (a) the difference between absentees and participating seniors, (b) one and one-half times that difference, and (c) twice that difference. The last we would consider a rather extreme assumption. (The method for calculating prevalence rates for the absentees is the one described above.)

The second general method involved using the best recent national data on drug use among dropouts—namely the National Household Surveys on Drug Abuse.** While these surveys have rather small samples of dropouts in the relevant age range in any given year, they should at least provide unbiased estimates for dropouts still in the household population.

Using the first method of estimation, we found that, under the assumption that dropouts are just like absentees, no prevalence rate was changed by more than 5% over the estimate based on 1983 seniors only, even with the simultaneous correction for both absentees and dropouts. The largest correction in 1983 involved marijuana, with lifetime prevalence rising from just under 60% to 64%. Even under the most extreme assumption—which results in exceptionally high prevalence rates for dropouts on all drugs, for example 90% lifetime prevalence for marijuana—the overall correction in any of the prevalence figures for any drug remains less than 7.5%. Again, marijuana shows the biggest correction (7.5% in annual prevalence, raising it from 46% uncorrected to 54% corrected for both absentees and dropouts). As we would have expected, the biggest proportional change occurs for heroin, since it represents the most deviant end of the drug-using spectrum and thus would be most associated with truancy and dropping out.

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*Elliott, D. and Voss, H.L. Delinquency and dropout. Lexington, MA: DC Heath-Lexington Books, 1974.

**Fishburne, P.M., Abelson, H.I., and Cisin, I. National Survey on Drug Abuse: Main Findings 1979 (National Institute on Drug Abuse). Washington, DC: U.S. Government Printing Office (ADM) 80-976, 1980. Also see Miller, J.D., et al. National Survey on Drug Abuse: Main Findings 1982 (National Institute on Drug Abuse). Washington, DC: U.S. Government Printing Office (ADM) 83-1263, 1983.

Extrapolating From The Household Surveys. The second method of estimating drug use among dropouts was by comparing the household survey data on dropouts versus with the data from those remaining in school. We conducted secondary analyses of the archived data from the 1977 and 1979 National Household Surveys. Analyses were restricted to the age range 17 to 19 years old, since about 95% of the Monitoring the Future respondents fall in this range. Of course, the numbers of cases are small. In the 1977 survey there were only 46 dropouts and 175 enrolled seniors in this age group. In the 1979 survey 92 dropouts and 266 seniors were included.

For marijuana, the estimated differences from the household survey data came out at a level which was at or below the least extreme assumption made in the previous method (where dropouts are assumed to have the same drug use levels as absentees). While this may have been comforting to the authors of the present report, we must admit that we believe the household sample underrepresents the more drug-prone dropouts to some degree. Those without permanent residence and those in the prison population, to take two examples, would be excluded from the sample coverage in a household survey. Thus we concluded that estimates closer to those made under the second assumption in the previous method may be closer to reality—that is, that dropouts are likely to deviate from participating seniors by one and one-half times the amount that absentees deviate from them.

Again, we emphasize that there are a number of reasons for dropping out, many of which bear no relationship to drug use, including economic hardship in the family and certain learning disabilities and health problems. The extreme groups such as those in jail or without a permanent place of residence are undoubtedly very small as a proportion of the total age group and probably even as a proportion of all dropouts. Thus, regardless of their prevalence rates, they would be unable to move the prevalence estimates by a very large proportion except in the case of the most rare events—in particular, heroin use. We do believe that, in the case of heroin use—particularly regular use—we are very likely unable to get a very accurate estimate even with the corrections used in this paper. For the remaining drugs, we conclude that our estimates based on participating seniors, though somewhat low, are not bad approximations for the age group as a whole.

Effects of Omitting Dropouts On Trend Estimates. Whether the omission of dropouts affects the estimates of trends in prevalence rates is another question, however. The relevant issues parallel those discussed earlier regarding the possible effects on trends of omitting the absentees. Most important is the question of whether the rate of dropping out has been changing in the country, since a substantial change would mean that seniors studied in different years would represent noncomparable segments of the whole class/age cohort. Fortunately for the purposes of this study, at least, the data published by the National Center for Educational Statistics show that dropout rates stabilized in about 1968, following a period of slow decline, and have remained essentially stable up through 1980, which is the most

recent year for which we have been able to locate published data.* NCES also projected the dropout rate to remain constant over the following ten year period.

Given that there appears to be no sound evidence of a change in the dropout rate, the only reason that trend data from seniors would deviate from trends for the entire class cohort (including dropouts) would be if the constant proportion who have been dropouts for some reason showed trends contrary to those observed among seniors; and even then, because of their small numbers, they would have to show dramatically different trends to be able to change the trend "story" very much. There has been no hypothesis offered for such a differential shift among dropouts which these authors find very convincing.

The one hypothesis which is occasionally heard is that more youngsters are being expelled from school, or voluntarily leaving school, because of their drug use; and that this explains the recent downturn in the use of many drugs being reported by the study. However, it is hard to reconcile this hypothesis with the virtually flat dropout rates over a fifteen year period (through 1980), unless one posits a perfectly offsetting tendency for more completion among those who are less drug prone—hardly a very parsimonious set of explanations. Further, the reported prevalence of some drugs has remained remarkably stable throughout the life of the study (e.g., alcohol, opiates other than heroin) and the prevalence of some has risen (amphetamines, cocaine). These facts are not very consistent with the hypothesis that there has been a recent increased rate of departure by the most drug prone. Certainly more youngsters leaving school in the 80's have drug problems than was true in the 60's. (So do more of those who stay in.) However, they still seem likely to be very much the same segment of the population, given the degree of association that exists between drug use and deviance and problem behaviors of various sorts.

Summary and Conclusions

In sum, while we believe there is some underestimation of the prevalence of drug use in the cohort at large as a result of the dropouts being omitted from the universe of the study, we think the degree of underestimation is rather limited for all drugs (with the possible exception of heroin) and, more importantly, that trend estimates have been rather little affected. Short of having good trend data gathered directly from dropouts, we cannot close the case definitively. Nevertheless, we think the available evidence argues strongly against alternative hypotheses—a conclusion which was also reached by the members of the NIDA technical review on this subject held in 1982.**

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*National Center for Educational Statistics. The Condition of Education: 1982 Edition (National Center for Educational Statistics). U.S. Government Printing Office, NCES-82-400, 1982.

**Clayton, R.R. and Voss, H.L. Technical Review on Drug Abuse and Dropouts. Rockville, MD: National Institute on Drug Abuse, 1982.

...the analyses provided in this report show that failure to include these two groups (absentees and dropouts) does not substantially affect the estimates of the incidence and prevalence of drug use.

Examples of Revised Estimates for Two Drugs

Figure W provides the prevalence and trend estimates of marijuana and cocaine, for both the lifetime and thirty-day prevalence periods, showing (a) the original estimates based on participating seniors only; (b) the empirically derived, revised estimates based on all seniors, including the absentees; and (c) estimates for the entire class/age cohort. The last estimate was developed using the assumption found to be most reasonable above—namely that the dropouts differ from participating seniors by one and one-half times the amount that the absentees do. Estimates were calculated separately for each year, thus taking into account any differences from year-to-year in the participation or absentee rate. The dropout rate was assumed to be a constant 15% of the age group across all years.

As Figure W illustrates, any differences in the slopes of the trend lines between the original and revised estimates are extremely, almost infinitesimally, small. The prevalence estimates are higher, of course, but not dramatically so, and certainly not enough so to have any serious policy-implication effects in the interpretation of the data.

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